



All-Party Parliamentary Group for Nature: Hot Topics Event

26 October 2021, 14:00-15:15

Attendees

Barry Gardiner (Chair)	Gilly Netherwood
Baroness Barbara Young	Maria Clarke
Hayden Banks	Michelle Baker
Amy Cosgrove	Miranda Cooper
Birgitta Gaterslaben	Nick Rau
Cathy Logan	Paul Cleave
Charlotte McDowell	Sue Dawson
Ciara O'Brien	Sasha Stashwick
Colette Savage	Louise Montgomery
David Chandler	Maya Menezes
Doug McNab	David Carr

Part 1

Welcome and Introductions

Barry welcomed all to the event and introduced our first talk on Nature-based Medicine. Barry noted the critical importance of nature to people during the Covid-19 pandemic.

Gary Evans, Forest Bathing Institute: Nature-Based Medicine

Gary introduced the topic as a way to help the Government save money and create green jobs, alongside improving health.

Gary has led over 200 nature immersion walks with stakeholders including doctors, professors and government departments, and is currently designing a post-graduate course on this topic.

Key points from Gary's talk are set out below:

- Forest Bathing research began in Japan in 2005, where doctors started researching the physiological changes associated with time spent in nature, including stress release.
- Forest bathing is not walking the dog or going for a run, it is slow paced reflective time and enjoying the biodiversity present (recommended at least 2 hours per week).
- Japan has largely delivered this as preventative medicine but it can also be a treatment, for example, for hypertension.

- Funding to support trials for nature-based interventions for long-Covid symptoms is being explored and seven trial sites are being set up for wider benefits.
- Research has shown nature-based medicine improves the body's natural resistance to disease that is suppressed due to stress. It has a physiological adjustment effect which means it can have different effects on different individuals e.g., can reduce blood pressure in those with high blood pressure and increase pressure for those with low blood pressure.
- More empirical evidence is required for doctors e.g., comparing the effects of nature prescriptions to traditional medicine, and the comparative costs. The Forest Bathing Institute is spearheading this with partners such as Kings College London and University College London.
- Research in Japan has shown improved immune response (NK cells) with the presence of certain air chemicals released by tree species.
- In a University of Derby Study, 88.5% of participants experienced a reduction in anxiety (by an average of 29%) after a forest bathing session.
- Monitoring of the effects of nature-based medicine can be expanded using technology e.g., heart rate monitors that assess the nervous system during treatment.
- The end goal is to achieve central government support and backing to allow access to be scaled as it has been in Japan (reaching around 3 million people).

Gary will circulate a roadmap for integrating nature-based interventions into the UK's healthcare system. This includes allocating sufficient funding, conducting a review of potential savings to the NHS and informing the public of the benefits with a public health campaign.

A suggested question to raise in the House is:

Computing and microelectronics have revolutionised numerous areas of our lives, so why haven't we used this to revolutionise our understanding of the health benefits of nature?

Question and Answer Session

Q: Does this only apply to woodland habitats or is the Forest Bathing Institute researching benefits of other habitats/being in nature more widely?

A: There is work on wider nature connection being undertaken, for example, at parks. However, sessions have shown that the complexity of forests and their biodiversity does have additional benefits for the immune system. Parks are essential for destressing and getting out in nature.

Q: Is there data on long term health benefits about the amount of time needed to be in nature to realise these?

A: The recommended dose based on research in Japan is a minimum of 2 hours as it is a gradual process to realise full benefits and generate activity in the parasympathetic nervous system. There are long-term follow up studies being undertaken.

Q: Many won't have access to nature in built up areas – how can their needs be met?

A: Some of the funding being sought is for transportation for those in built up areas and with disabilities.

Q: Are there any easy access papers on the relationship between chemicals in the forest and health benefits?

A: Yes, papers will be linked below. Three main chemicals have been identified that are linked to immune system benefits – d-limonene, alpha-pinene and cineole.

Q: As these chemicals have been isolated, have studies been done on their effects when released in controlled/artificial environments? This could be important for those who have reduced access to nature.

A: Yes, this has been studied – chemicals were released in a hotel room and benefits measured. But participants only got around 50% of the benefits compared to being in the natural environment in which the chemicals are released. The other 50% of benefits from nature still need to be quantified. It is also much more expensive to synthesise the chemicals.

Resources

Link to one of the key papers related to air chemistry and immune response:

<https://environhealthprevmed.biomedcentral.com/articles/10.1007/s12199-008-0068-3>

International Handbook of Forest Therapy: The first International Handbook of Forest Therapy defines the scientific domain of this innovative, evidence-based and timely public health approach. More than 50 authors from around the world are brought together to offer their expertise and insights about forest therapy from a variety of research perspectives. <https://cambridgescholars.com/product/978-1-5275-3955-6>

Part 2

Barry then introduced our second talk on the impacts of the biomass industry on biodiversity.

Heather Hillaker, Southern Environmental Law Centre/Cut Carbon Not Forests

Heather is an attorney with the Southern Environmental Law Centre based in the Southern United States. Cut Carbon Not Forests is a coalition campaign working to have public subsidies redirected from companies that burn trees for electricity to renewable sources like wind and solar.

Key points from Heather's talk are set out below:

- Burning wood for energy burns more CO₂ than coal per megawatt hour of energy produced.
- Drax power station (world's largest biomass burner) has been dropped from the S&P Global Clean Energy Index over environmental concerns after a report found Drax to be the largest CO₂ emitter in the United Kingdom.
- The UK is the largest subsidiser of biomass energy in Europe, supplying £1.9 Billion in 2019 to the industry, including £830 million to Drax's overseas forest operations.
- The UK's biomass programme relies on a series of sustainability criteria, however, CCNF do not believe these ensure the programme is not harming the climate and biodiversity.
- On the ground investigations e.g., by Channel 4, have found wood pellets burned in the UK are largely made by clear-felling whole trees, many of which are old growth forests. However, Drax claimed this is an unusual situation not the norm, meanwhile Drax's own reports show a reliance on whole trees for 50% of its materials.
- Most of Drax's supply comes from south-east US. When the wood pellet industry started operations in the area, they claimed it would mostly use residues and waste material from logging practices, but this is not the case.

- It takes decades for these old-growth habitats to recover. Many wood pellet source areas and mills are in the North American Coastal Plain (a global biodiversity hotspot). The industry is adding pressure to these ecosystems and has contributed to the decline of taxa such as migratory songbirds.
- Investigations have also shown the UK supply has come from Canada's boreal forests and from natural protected areas in Estonia.
- This industry is also contributing to air pollution locally in the US, and mills are often located in low-wealth areas.
- The UK's biomass support is contradicting its commitments to addressing climate change and biodiversity loss, including the recent pledge at part 1 of COP15 to spend a large part of climate funding on protecting biodiversity.

Question and Answer

Cut Carbon Not Forest colleagues joined the call to help answer questions including Sally Clark, Elly Pepper, Rita Frost and Maya Menezes.

Q: Which birds are under threat in the US from forest loss?

A: Bird species that rely on upland hardwood forests, bottomland hardwood forests including wetland forests and natural pine forests. The wetland forest ecosystem is historically where a lot of the wood for wood pellets is coming from. Species including Cerulean Warblers (declining at one of the fastest rates of any North American songbird) and Black Throated Green Warbler (endemic to region) are threatened by these activities. In Canada, many areas being harvested are incredibly important to bird life such as the Whooping Crane. In Estonia, many of the logged areas are Natura 2000 reserves. The EU has brought infringement action against Estonia for logging in these areas.

Q: Rita Frost was invited to say more about work the Dogwood Alliance has done on this topic.

A: Rita noted in the past decade biomass logging has become a major threat to forests, climate and local communities in the southern US. Around 180,000 acres of forest are cut down every year for wood pellet biomass energy. Landowners are not required by law to replant forests, and if they do, they take a long time to regrow and don't offer the same benefits to biodiversity. In the US, this impacts resilience of communities to storm flooding and hurricanes and there is a need for data on this. The NAACP has called the industry a "clear cut example of environmental racism".

Comment: It was noted Drax has an executive sitting on the Climate Change Committee.

Q: Will the work of the Taskforce for Nature Disclosure bring any more awareness of this type of issue into the investment and business world?

A: This will largely depend on the quality of reporting and consequences for failing to report/inaccurate reporting. Requirements must be enforced.

Q: what role do you think there is, if any, for domestic biomass production as opposed to sourcing from the US? with the strategy next year, what recommendations do you have for the type of wood and land requirements domestically which would not harm our net zero targets?

A: The volume of wood to supply a power station like Drax is enormous and there isn't enough supply in the UK. There are proposals to develop biomass with carbon capture and storage however this is unproven technology at the moment.

Barry asked those working in this area to send through any evidence of Drax/suppliers making statements that are proven to be untrue or missing key items so this can be raised in questions to BEIS.

Cut Carbon Not Forests will provide follow up material and actions that can be taken.

Resources

Birds under threat from biomass industry: <https://www.cutcarbonnotforests.org/wp-content/uploads/2021/03/impacts-uk-biomass-birdlife-fs.pdf>

https://www.southernenvironment.org/wp-content/uploads/2021/08/Wood_Pellet_Handout_2021_FINAL-1.pdf

This is a recent Channel 4 news investigation into the logging of Estonian forests, including protected forests: <https://www.channel4.com/news/fears-biomass-green-revolution-could-be-fuelling-habitat-loss>

<https://www.ft.com/content/36c582e9-24af-425b-8952-054153ac5609>

This is Biofuelwatch's research into Drax's lobbying of government and academic institutions" <https://globalforestcoalition.org/forest-cover-63/#drax>

This is Drax's admission to climate campaigners that their BECCS assumptions are not based on any trials: <https://www.biofuelwatch.org.uk/2021/drax-plcs-carbon-capture-claims-not-based-on-any-real-world-evidence-company-reveals-to-campaigners/>