

VALLADOLID, 20-21 | SEPTEMBER 2018

Paul NOLAN

Director. Mersey Forest



Keynote Speaker:

Renaturing cities

“City renaturing: integrating nature to create new city ecosystems”



Paul Nolan

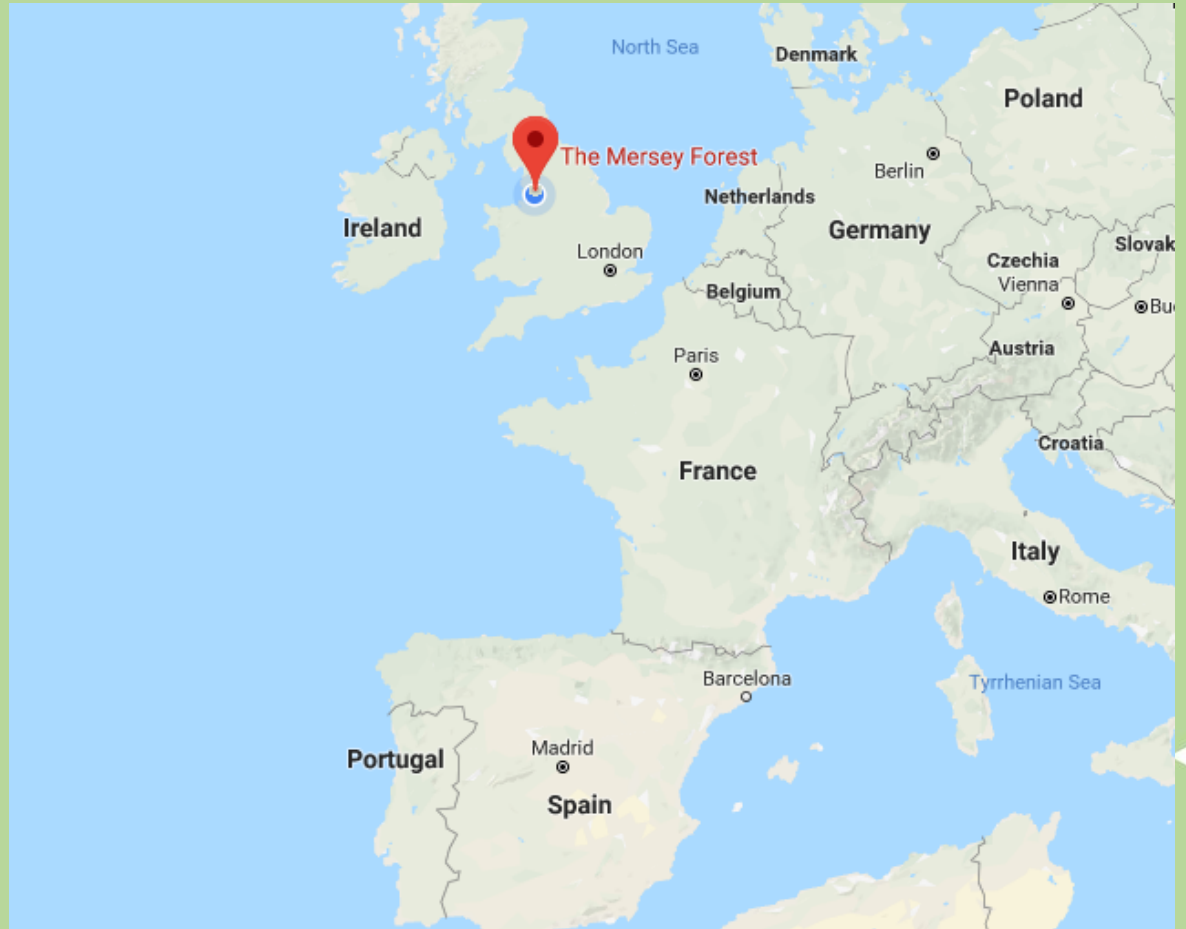
The Mersey Forest

CITY RENATURING: INTEGRATING NATURE TO CREATE NEW CITY ECOSYSTEMS



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The Mersey Forest



The Mersey Forest...

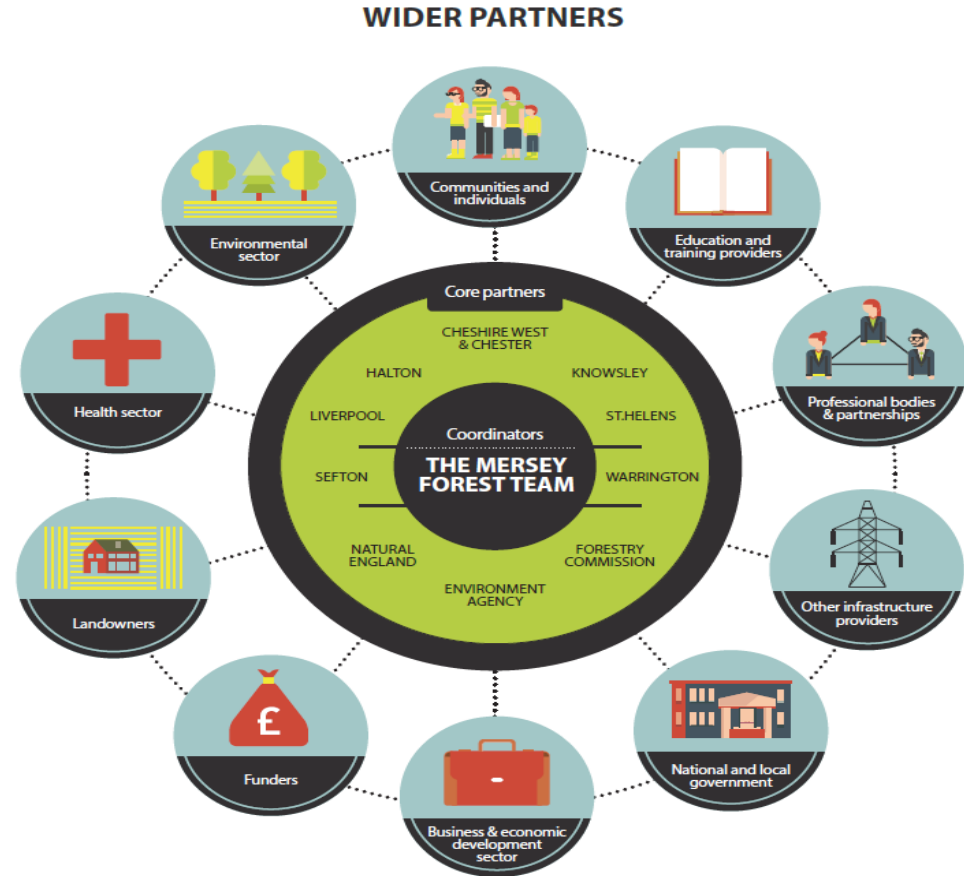


With a plan



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A partnership



.....and a Team



Transforming places...



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©Steve Samosa

...and lives



The green infrastructure journey that The Mersey Forest has been part of since 2004





Overview

3 reasons to renature?

11 benefits?

Some challenges!

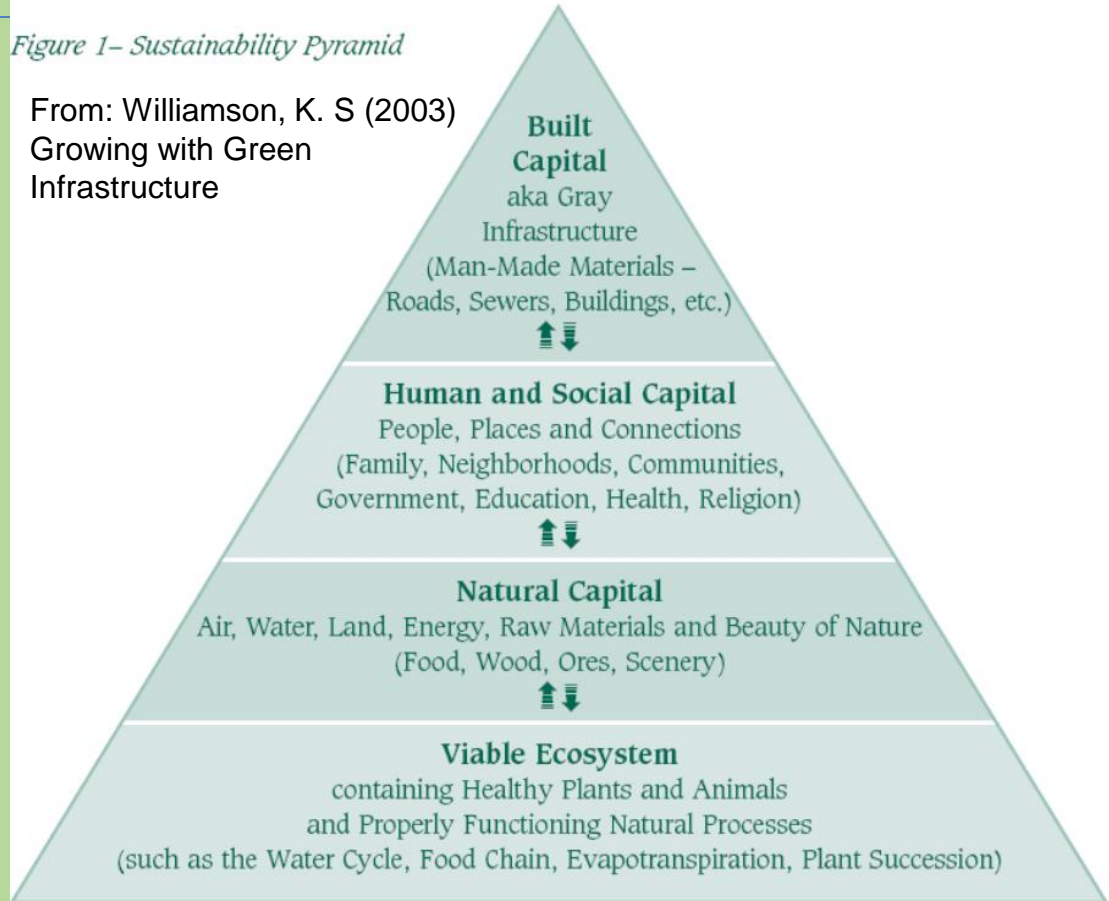
3 examples

How can we fund this?

Why Renature? 1

Figure 1– Sustainability Pyramid

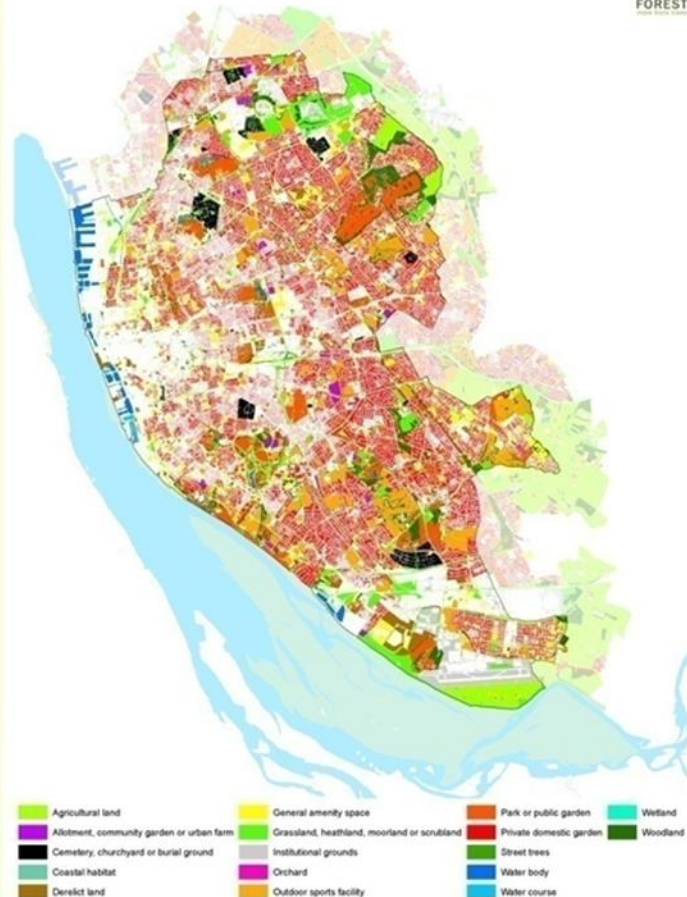
From: Williamson, K. S (2003)
Growing with Green
Infrastructure





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Liverpool City GI Typology



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Why renature? 2

Our towns and cities have problems that green infrastructure can help to tackle.

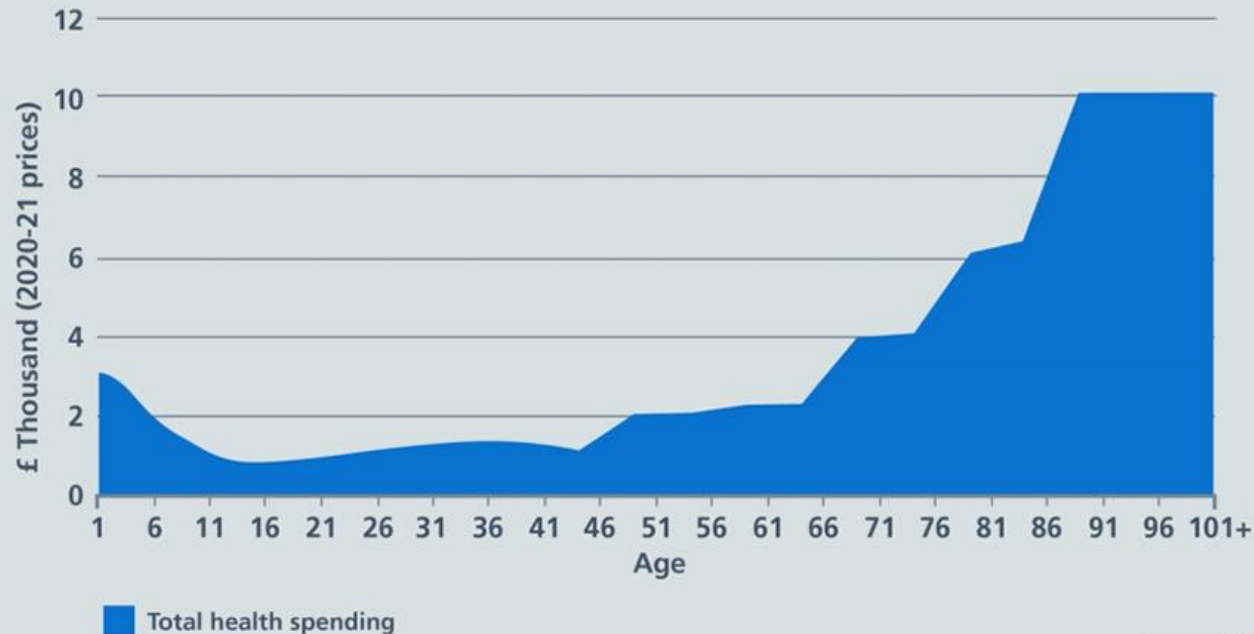


Ageing population
Rising city population
Climate change
Reduced public funding
Ageing infrastructure

- 
- According to a World Health Organization report on Global Health and Ageing, by 2020 the number of people aged 65 or older will outnumber children under age 5.

Health care costs rise rapidly with age

Figure 1: Health care spending rises sharply with age



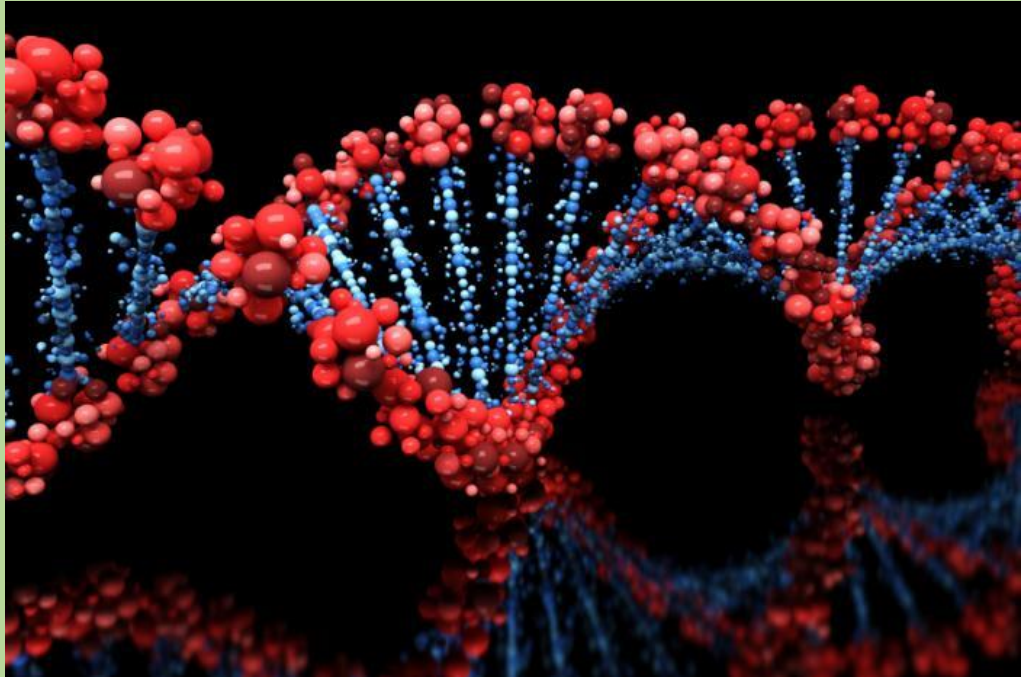
Source: OBR



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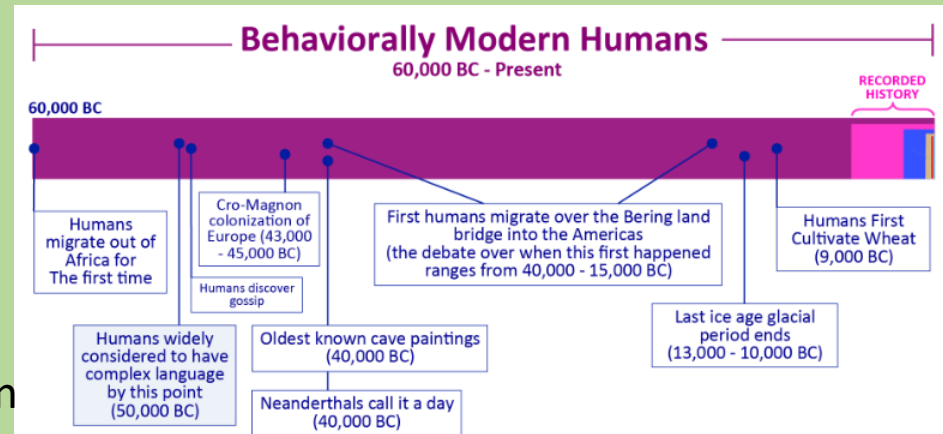
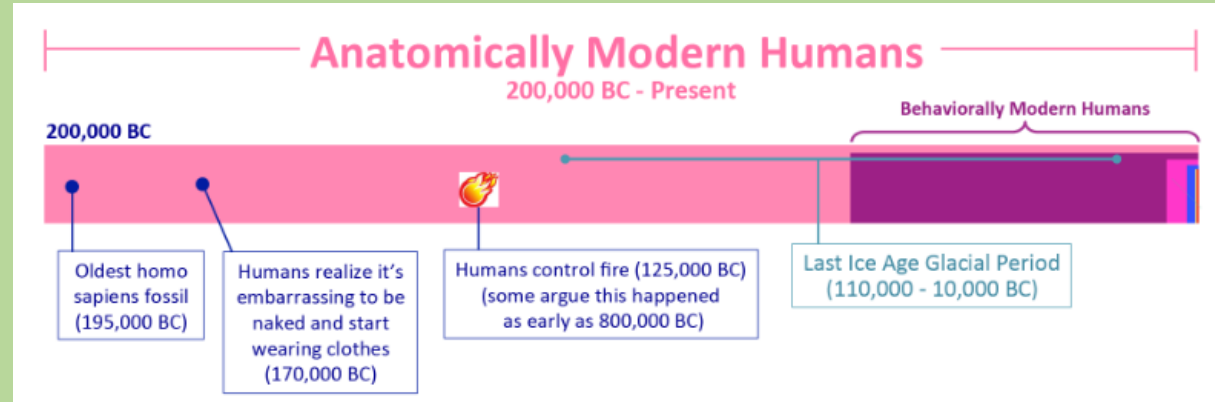
Why renature 3

It's in our genes!



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We evolved in contact with nature



With thanks to Tim Urban

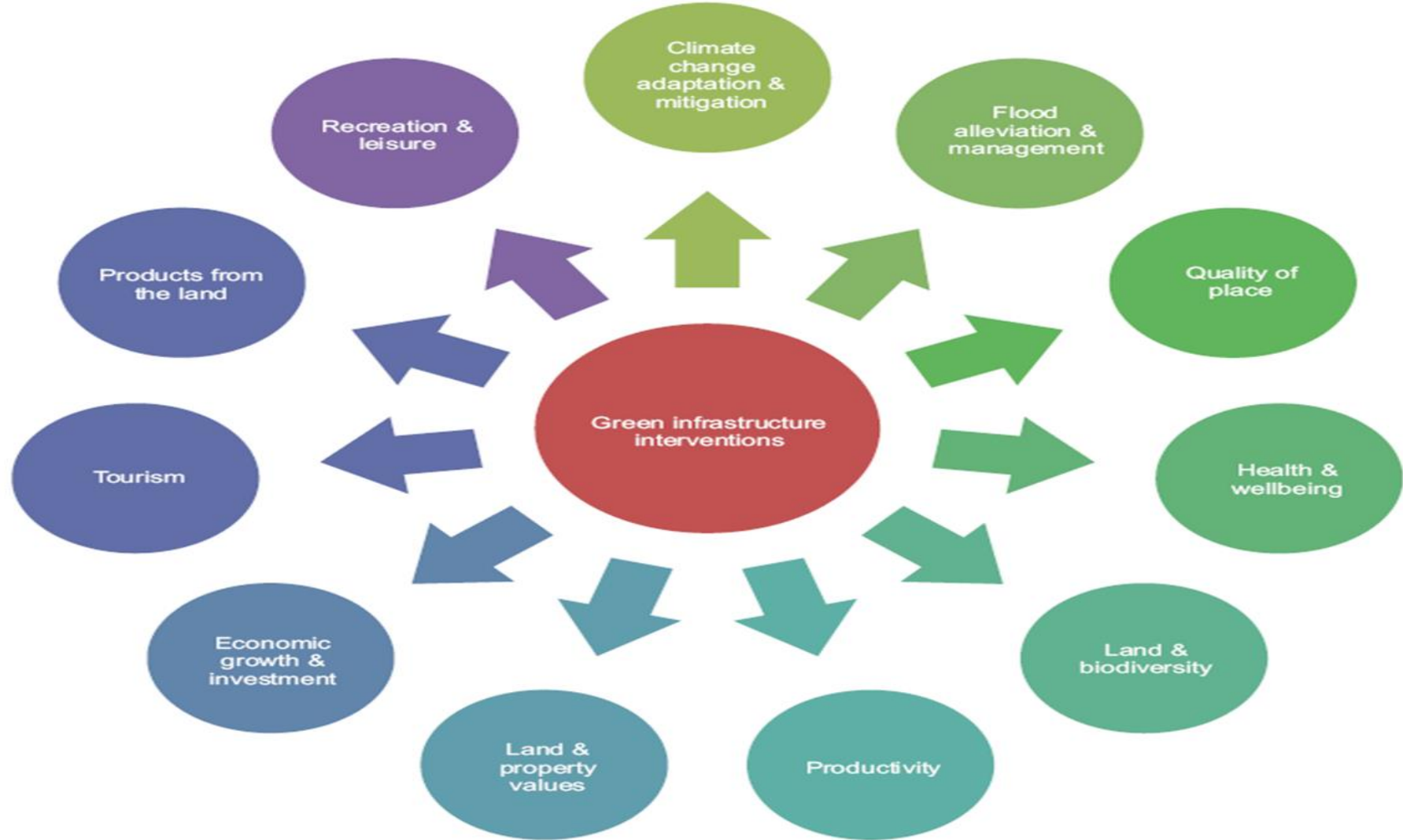
What are the benefits of renaturing?

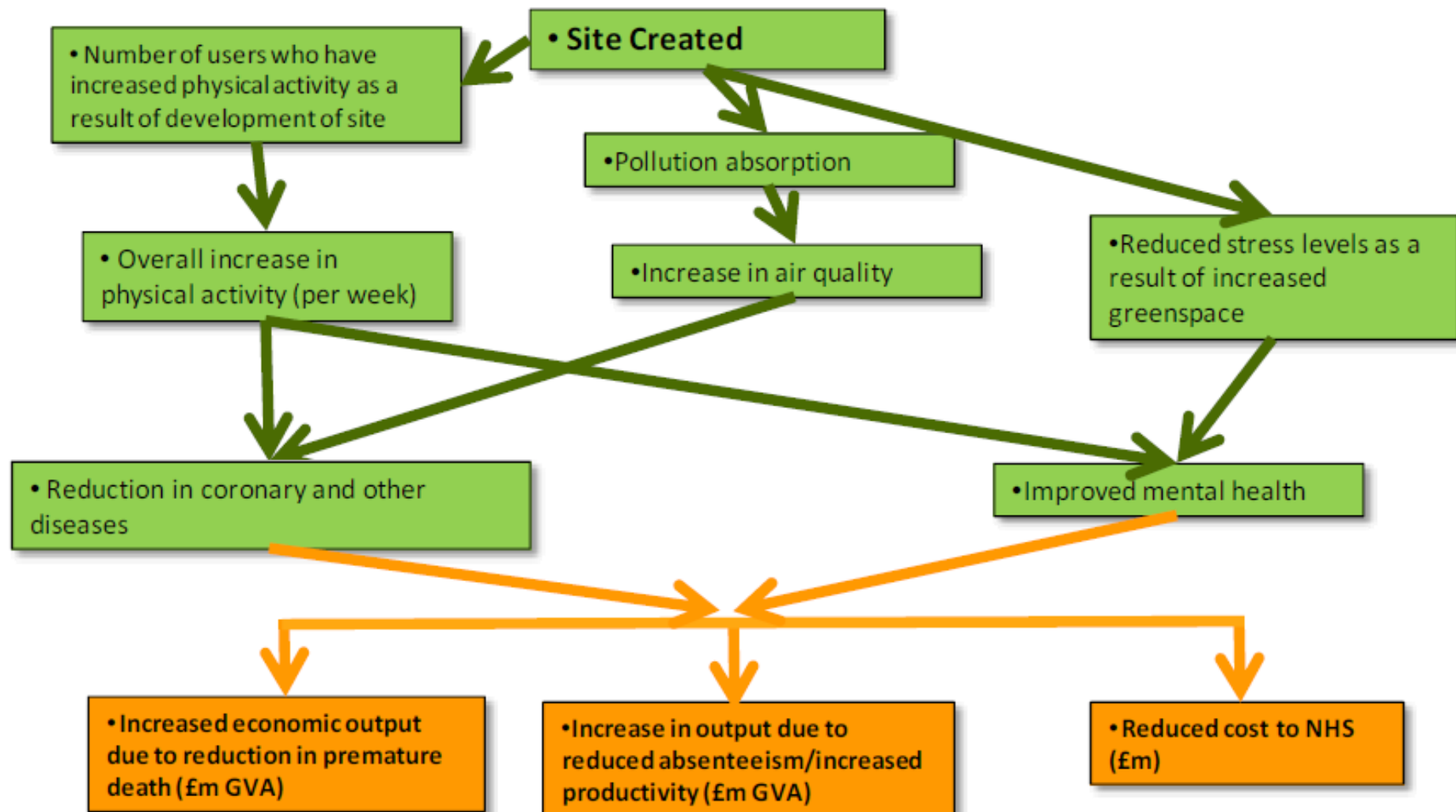
We use a model of 11 benefits

Also

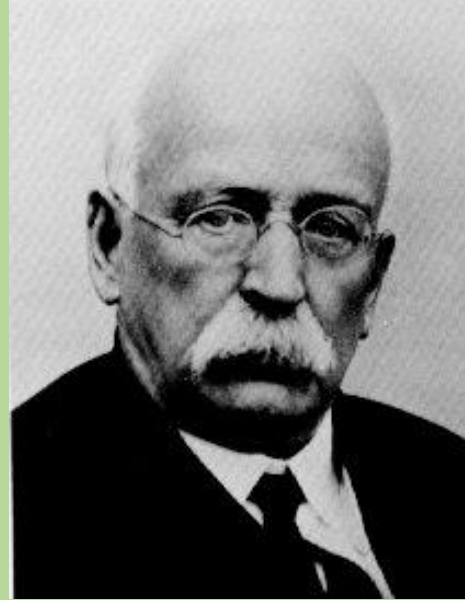
Eclipse framework

But we get many benefits from one renaturing intervention





In some ways this is nothing new.



- Ebenezer Howard - people living harmoniously together with nature - 1850-1928

Some challenges

Finance

Engaging other professions

Data and evidence

Cost benefit analysis

Nature can be untidy!

Nature can wait.

Time...nature takes time...

Some examples

Renaturing for

Water management

Urban Heat island

Health and Wellbeing

Water management



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Impacts of Impervious cover on hydrological cycle

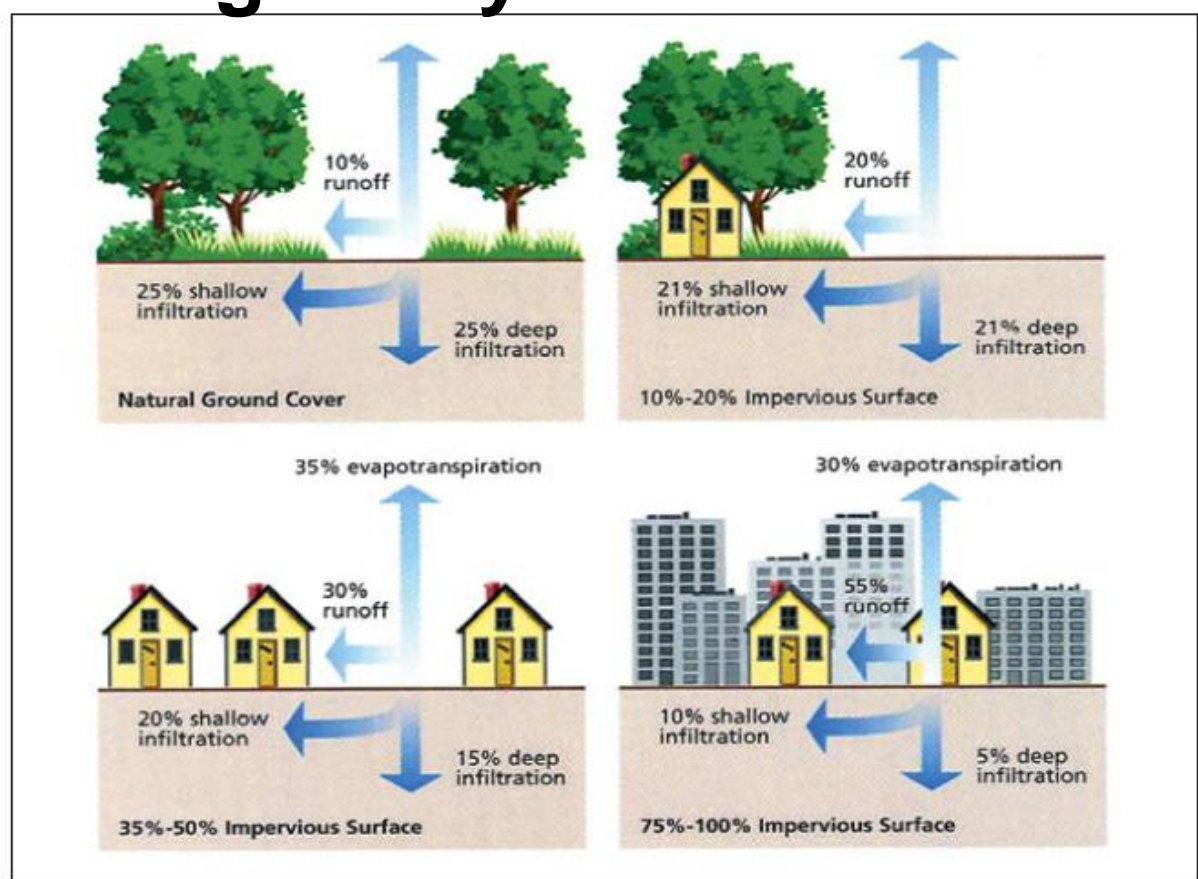


Figure 2. The Impacts of Impervious Cover on the Hydrologic Cycle

(Source: FISRWG, 1998, p. 3-21)

Water management is enhanced by planting as part of...

.... engineered
tree pits with
structural
cells & soils

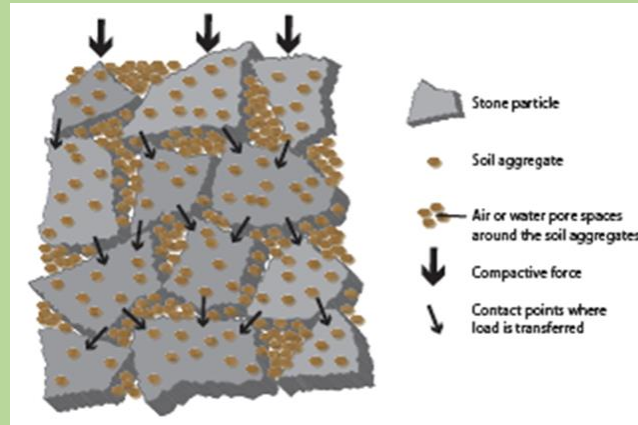
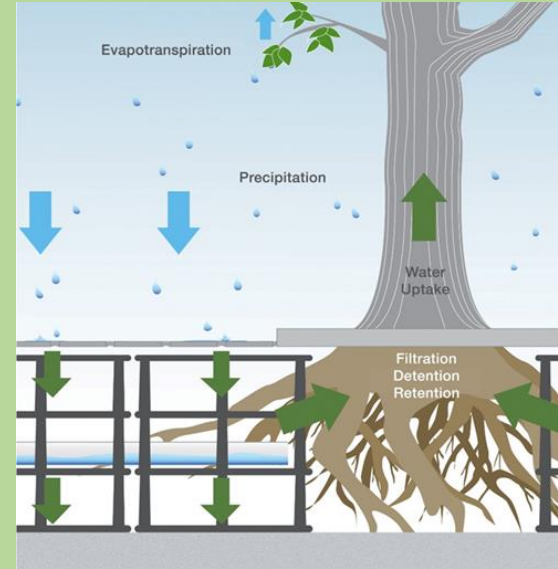


Image: Bryan Seipp



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... biofiltration systems



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Urban Catchment Forestry

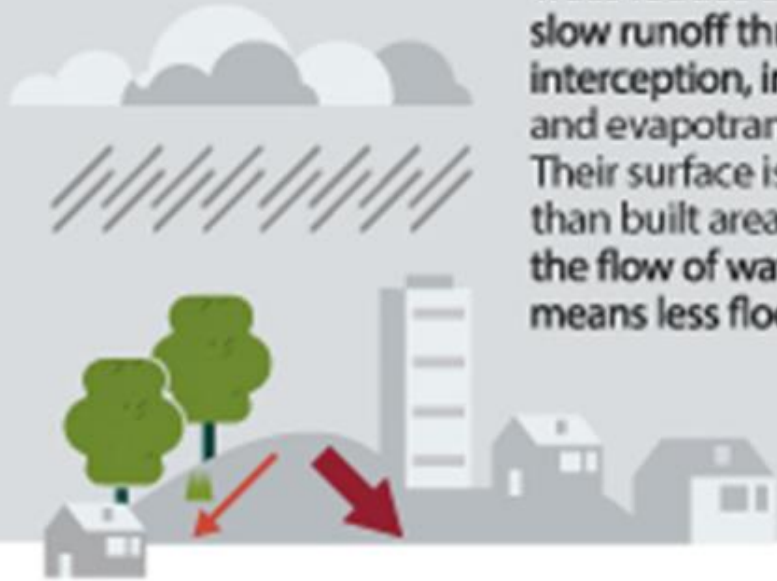


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Run-off

Trees reduce and slow runoff through interception, infiltration and evapotranspiration. Their surface is rougher than built areas, impeding the flow of water. This means less flooding.



- Single young tree in small pit reduces runoff by 60%, even when not in leaf (*Armson et al, 2013*)
- Increasing tree cover by 10% in town centres reduces runoff from an 18mm rainfall event by 8% (*Gill, 2006*)

Example 2

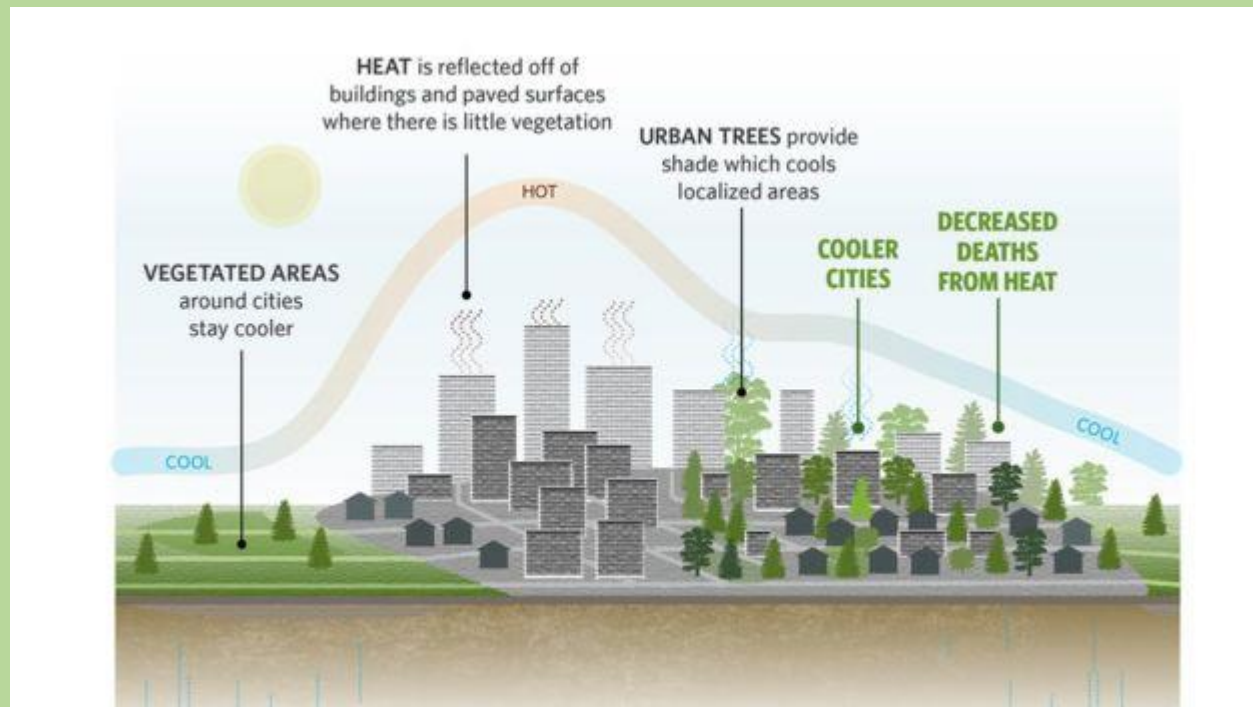
Urban Heat Island

Deaths rose 650 above average during UK heatwave - with older people most at risk

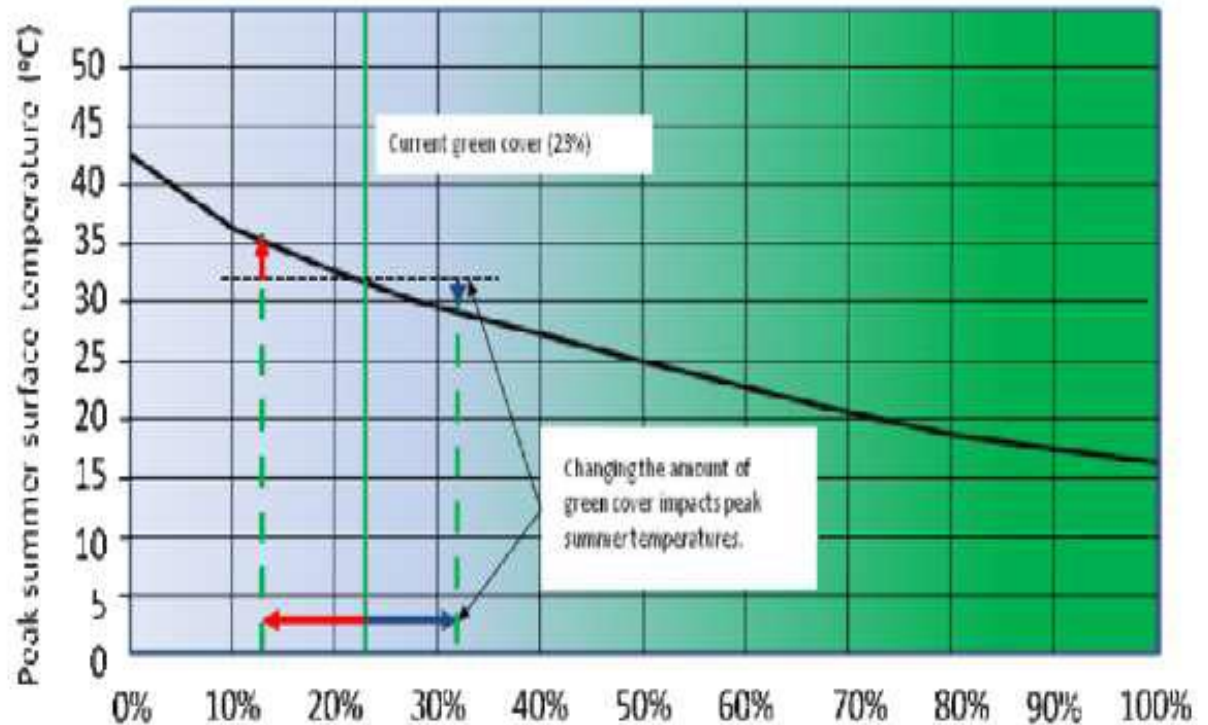
Exclusive: data shows spike in deaths coinciding with high temperatures, with frail, older people with kidney or heart problems most vulnerable



▲ Blackpool sun-seekers: the heatwave has coincided with a 650-strong spike in fatalities. Photograph: Getty Images



Nature as a temperature control?

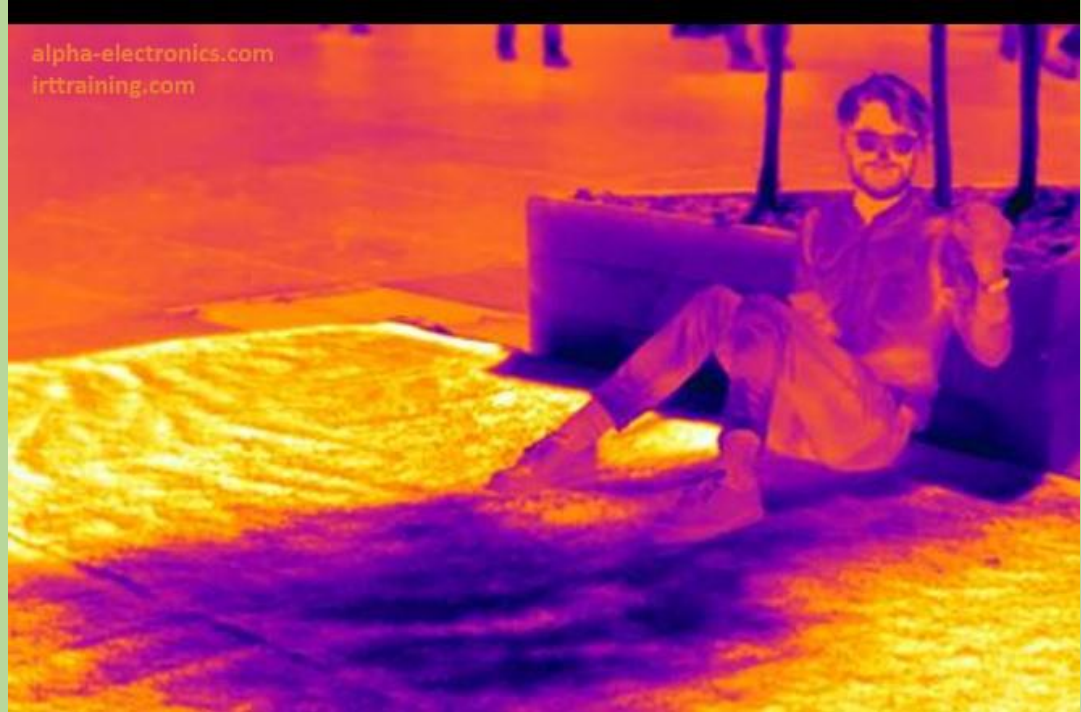


Pop up forest in Liverpool



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Cooling and shading



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Example 3 Health



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Health- Mersey Forest

3 step approach

1. More people, more active, more often in nature



2. Promoting the passive benefits of trees and woodland



3. Natural Health Service



The Natural Health Service

- Natural environment – as a health asset
- Specific, targeted, evidence based interventions – “dose” of nature
- Long term research

OUR FIVE NATURE4HEALTH ACTIVITY PRODUCTS



HEALTH WALKS

Walking is the easiest form of outdoor exercise supporting the widest age and ability range.



HORTICULTURAL THERAPY

Improving mental and physical wellbeing through gardening and growing food.



MINDFUL CONTACT WITH NATURE

Applying the principles of mindfulness to the outdoors brings a walk in the woods to a new level of intensity. It's all about submerging yourself in the sights, sounds and smells of the woods



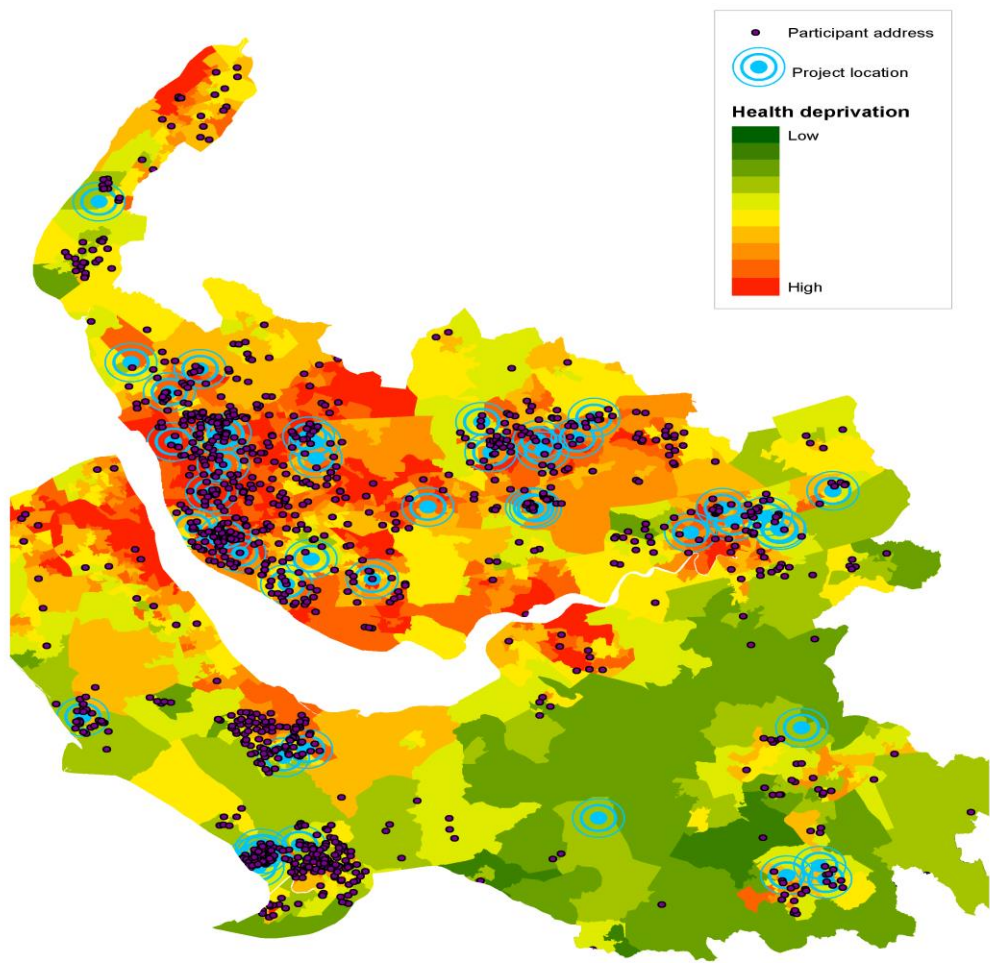
FOREST SCHOOL

Forest School allows children to play, explore and learn about the natural environment and do activities like shelter-building, outdoor cooking, growing plants, using tools and bug-hunting. It's a hands-on approach to promote play in natural environments.

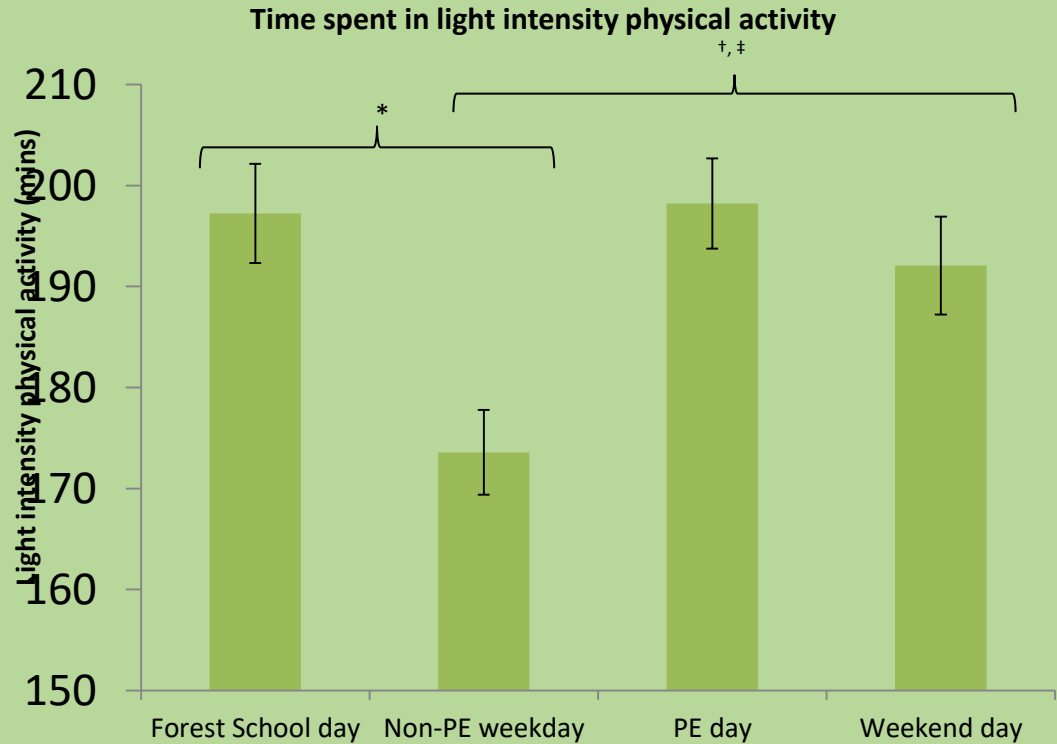


PRACTICAL CONSERVATION

Our Conservation Workout sessions involve getting stuck in to do practical tasks to improve the environment, boosting health at the same time.



Children are as active on Forest School days as PE days

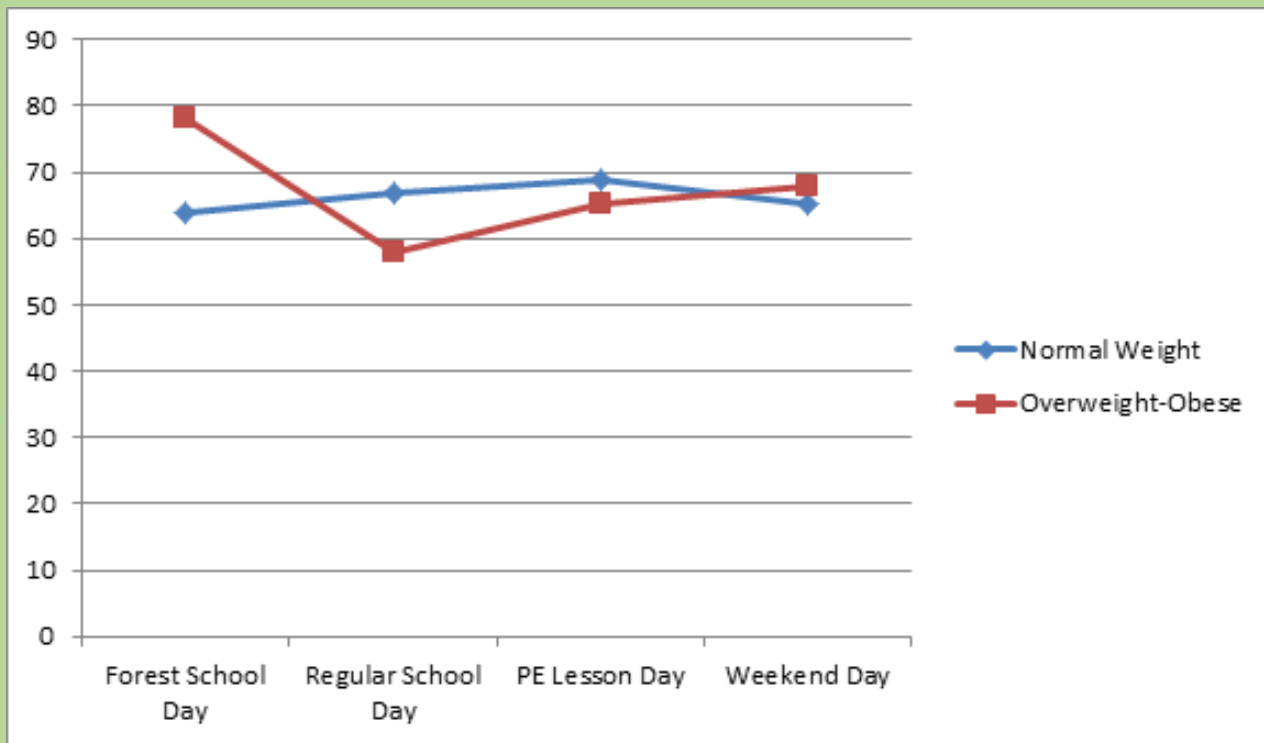


Children who are overweight/obese are the most active in Forest School

Moderate activity levels



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Monetizing the benefits



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[Home](#) > [Services](#) > [GI-Val](#)

GI-Val



GI-Val is The Mersey Forest's green infrastructure valuation toolkit

The current prototype is free and open source, and can be downloaded right here...



[Supplementary notes on revised runoff tool \(tool 2.1\)](#)



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More ways to work with us

Our consultancy services

We are specialists in green infrastructure planning, GIS, interactive mapping and more. [Read more...](#)



Corporate social responsibility

Find out about how your business could become a corporate sponsor of The Mersey Forest. [Read more...](#)



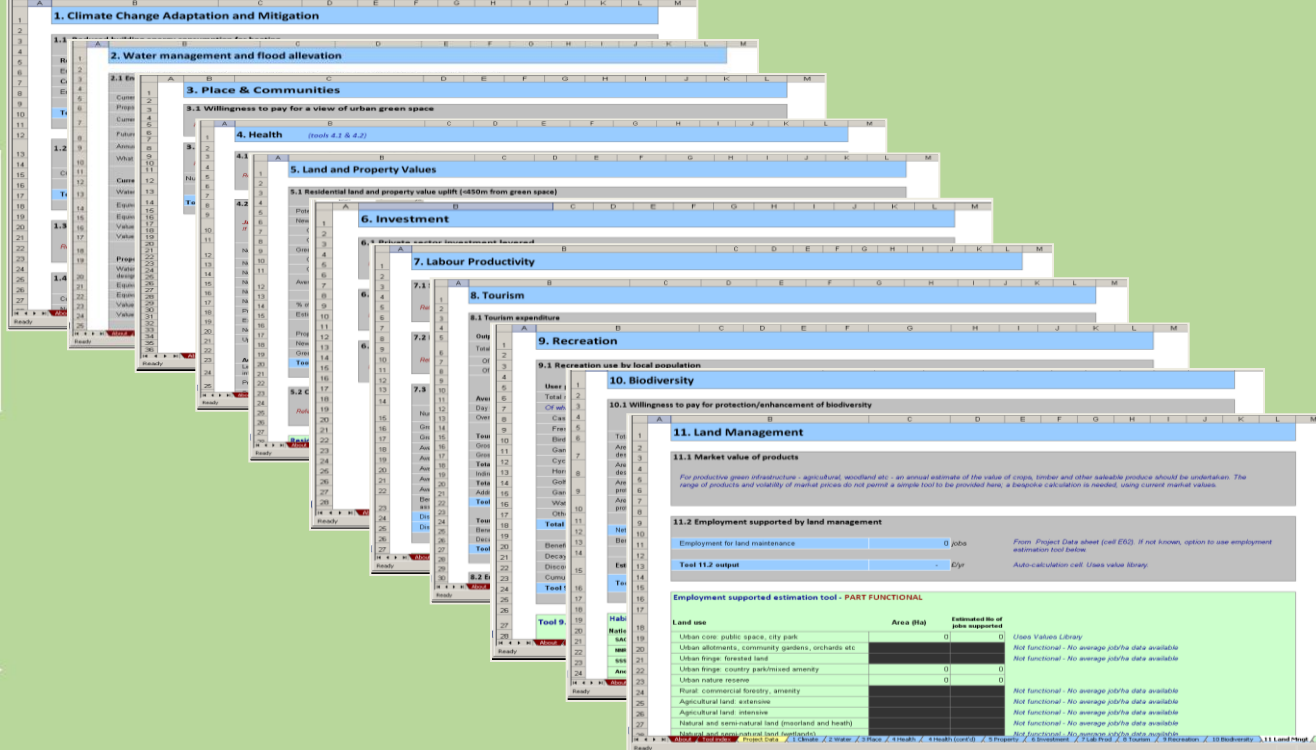
Mindfulness in forests for organisations

The Mersey Forest provides mindfulness and forestry workshops for organisations. [Read more...](#)



GI-VAI Toolkit - www.ginw.co.uk

Spreadsheet-based
Calculator



England's Northern Forest

A growing opportunity
for a better quality of life



England's community forests



Manchester
City of Trees

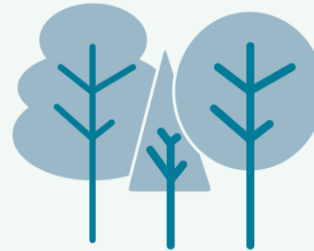


A new Northern Forest

The Woodland Trust is working with the Community Forests in the north of England to develop plans for a new Northern Forest – stretching from Liverpool across to Hull, with the M62 as its spine.



25
years



50m
trees

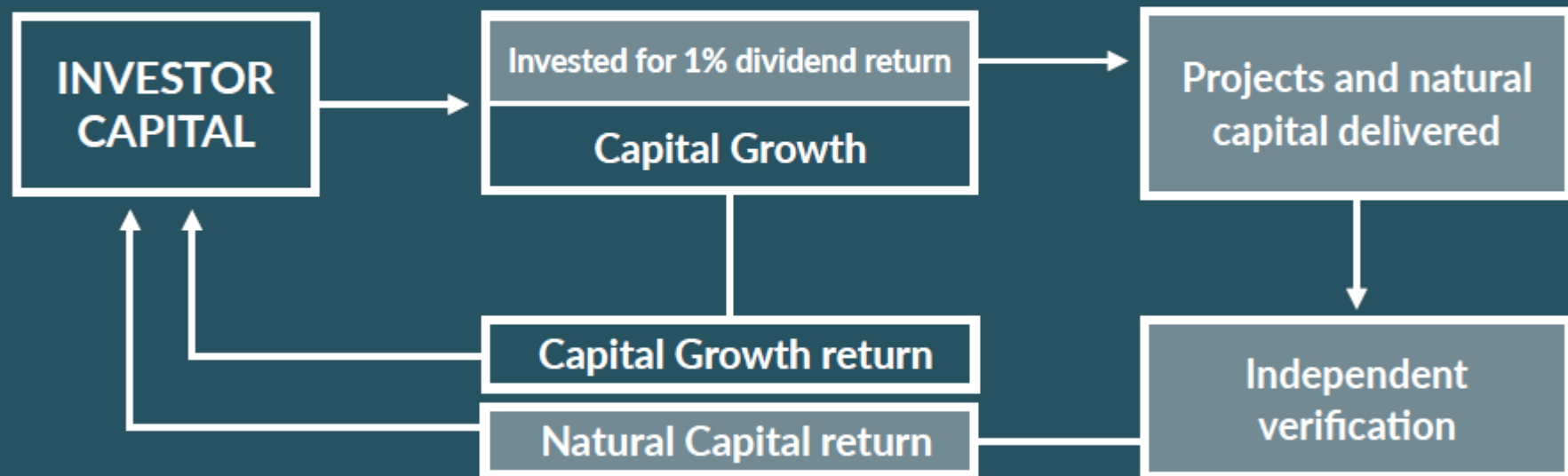
SUMMARY OF ECONOMIC VALUE			
BENEFITS	BENEFIT MONETISATION		
	GVA value	Land and property value	Other economic value
1 Climate Change Adaptation & Mitigation	£7.5m	n.a.	£137m
2 Water management & Flood Alleviation	£38.2m	n.a.	n.a.
3 Place & communities	£226m	n.a.	£488m
4 Health & Well-being	£23.4m	n.a.	£1.6bn
5 Land & Property Values	n.a.	£2.4bn	n.a.
6 Investment	n.a.	n.a.	n.a.
7 Labour Productivity	£524m	n.a.	n.a.
8 Tourism	£344m	n.a.	n.a.
9 Recreation & leisure	n.a.	n.a.	£18.4m
10 Biodiversity	n.a.	n.a.	£139m
11 Land management	£88.9m	n.a.	n.a.
TOTAL ECONOMIC VALUE OF BENEFITS	£1.3bn	£2.4bn	£2.4bn

How can we fund this work

Can we find new ways to resource what we are trying to do?

NEW MODEL

A BOND WITH NATURE



Testing these ideas



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SEIKO

NEW WR

SEIKO

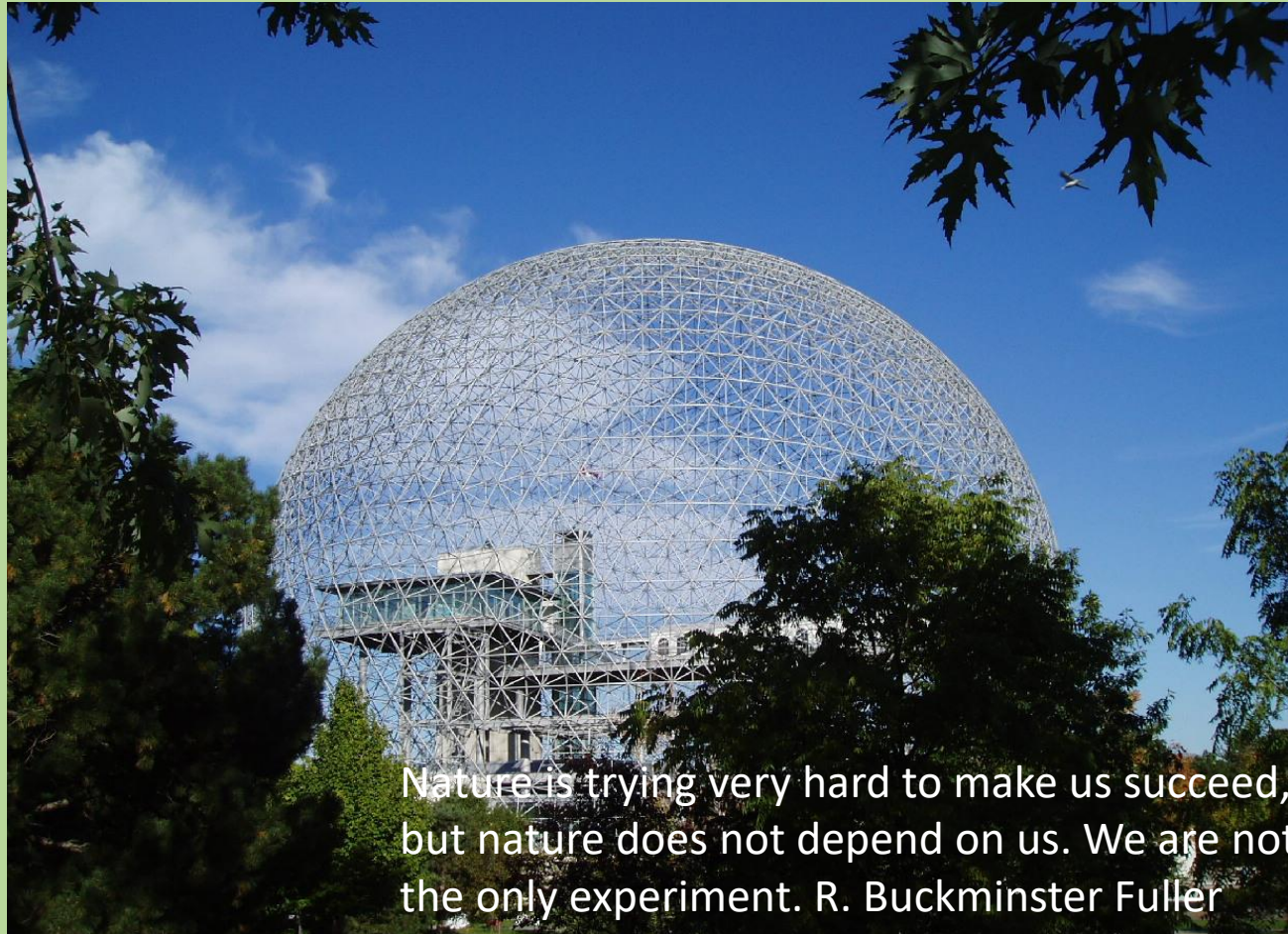
9.58



Green Infrastructure as a critical infrastructure for our cities

Tackle key issues
Evidence led
Cost Effective
Its in our genes!

Finally



Nature is trying very hard to make us succeed,
but nature does not depend on us. We are not
the only experiment. R. Buckminster Fuller



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Paul Nolan - The Mersey Forest

THANK YOU FOR YOUR ATTENTION!