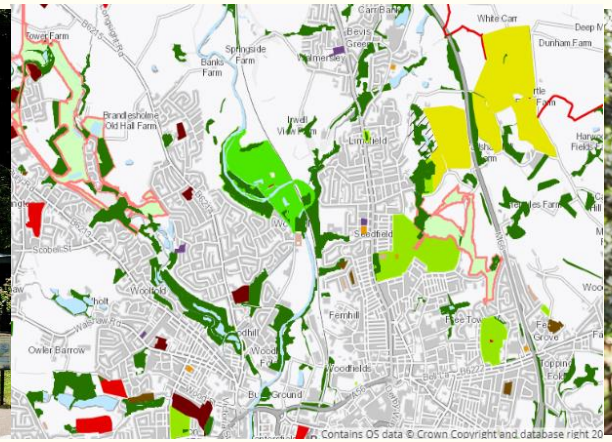
Green Infrastructure Framework: Principles and Standards for England

Clare Warburton, Principal Adviser, Natural England



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Biodiversity in UK

40% species in decline
40m birds lost from skies
1 in 4 mammals threatened with extinction
97% wildflower meadows
10,000 km2 of wetlands drained

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Cities are hotspots for Climate Change

Intergovernmental Panel on Climate Change:

Cities are hotspots of climate change impacts and risks, but also a crucial part of the solution

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Inequality in access to green space

Most people's experience of the natural world is on their doorstep

The rise of shorter, close to home nature visits

	Average distance travelled	Visits less than 3 hours in duration	Visit destinations reached on foot	Visits taken to greenspace in town or city
2018/19	4.9 miles	86%	64%	52%
2009/10	6.8 miles	79%	61%	41%

Source: MENE 2018/19 and 2009/10, Adults living in England

Environment Act 2021

Biodiversity Net Gain

- Minimum 10% gain in biodiversity
- calculated using Biodiversity Metric & approval of a net gain plan
- Habitat secured at least 30 years
- Delivered, on-site, off-site or via statutory biodiversity credits
- National register for net gain sites
- Likely to become law – late 2023
- Does not change existing legal protections

Local Nature Recovery Strategies

- Locally developed, spatial strategies for nature working within a national framework.
- Identify opportunities and priorities for enhancing the natural environment
- Inform and underpin the national Nature Recovery Network (NRN)
- Draw on other relevant spatial plans and strategies such as GI strategies.
- Can be used to target net gain delivery

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Green Infrastructure Framework

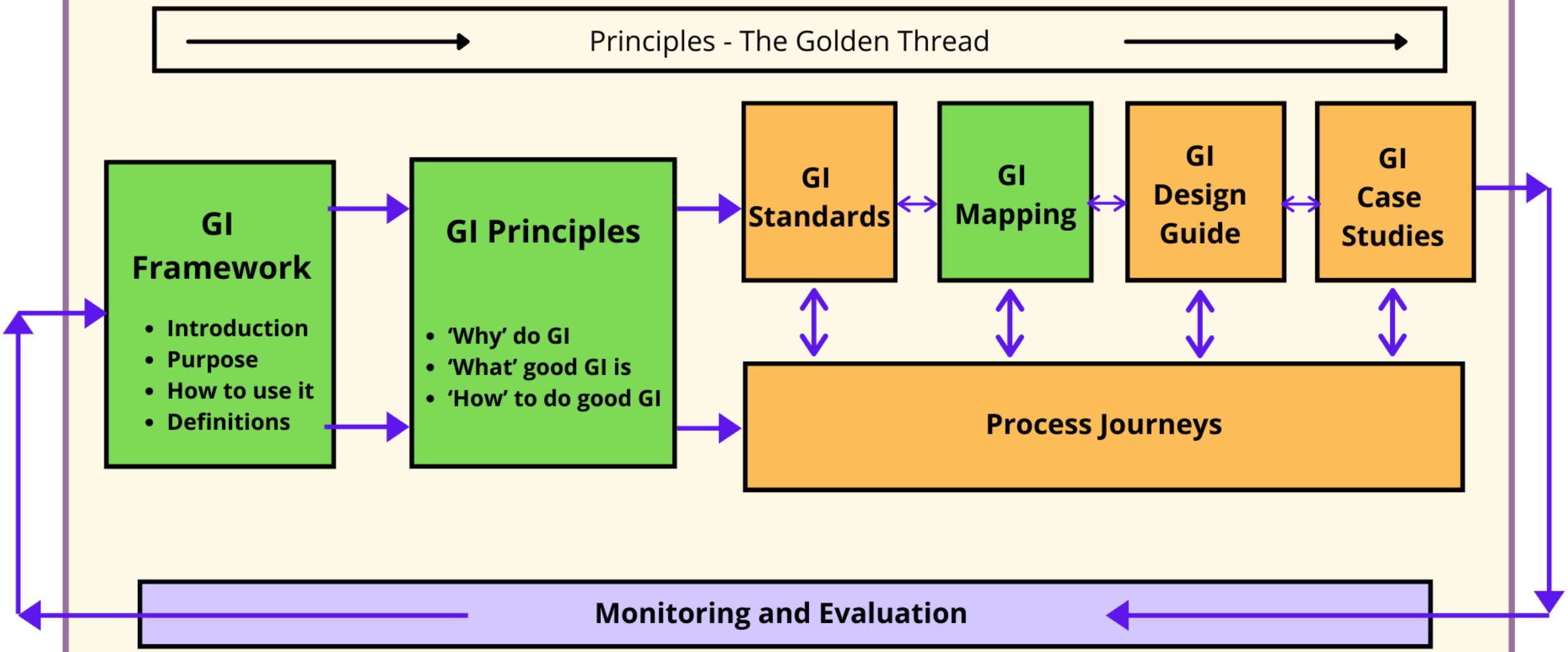
https://designatedsites.naturalengland.org.uk/GreenInfrastructure/home.aspx

- Improve existing green infrastructure (GI) and create more GI to provide benefits for health, nature, climate and prosperity
- Help the country recover from Covid 19 by ensuring that everyone has access to good quality GI and by focusing on areas of poor GI provision especially in areas of multiple deprivation and health inequalities
- Support Local Authorities in refresh of local plans by 2023
- Mainstream GI as a key asset/ infrastructure in creating and maintaining sustainable places

Review

- **Stage 1 2019**
  - GI Drivers of Change, Policy, Evidence
  - Reviewed 25 GI Standards in UK & 15 international GI Standards
  - Developed GI Principles
- **Stage 2 Review 2020-21**
  - Urban Greening Factors
  - Accessible Natural Greenspace Standards
  - GI Mapping
  - Trials, Testing, Feedback

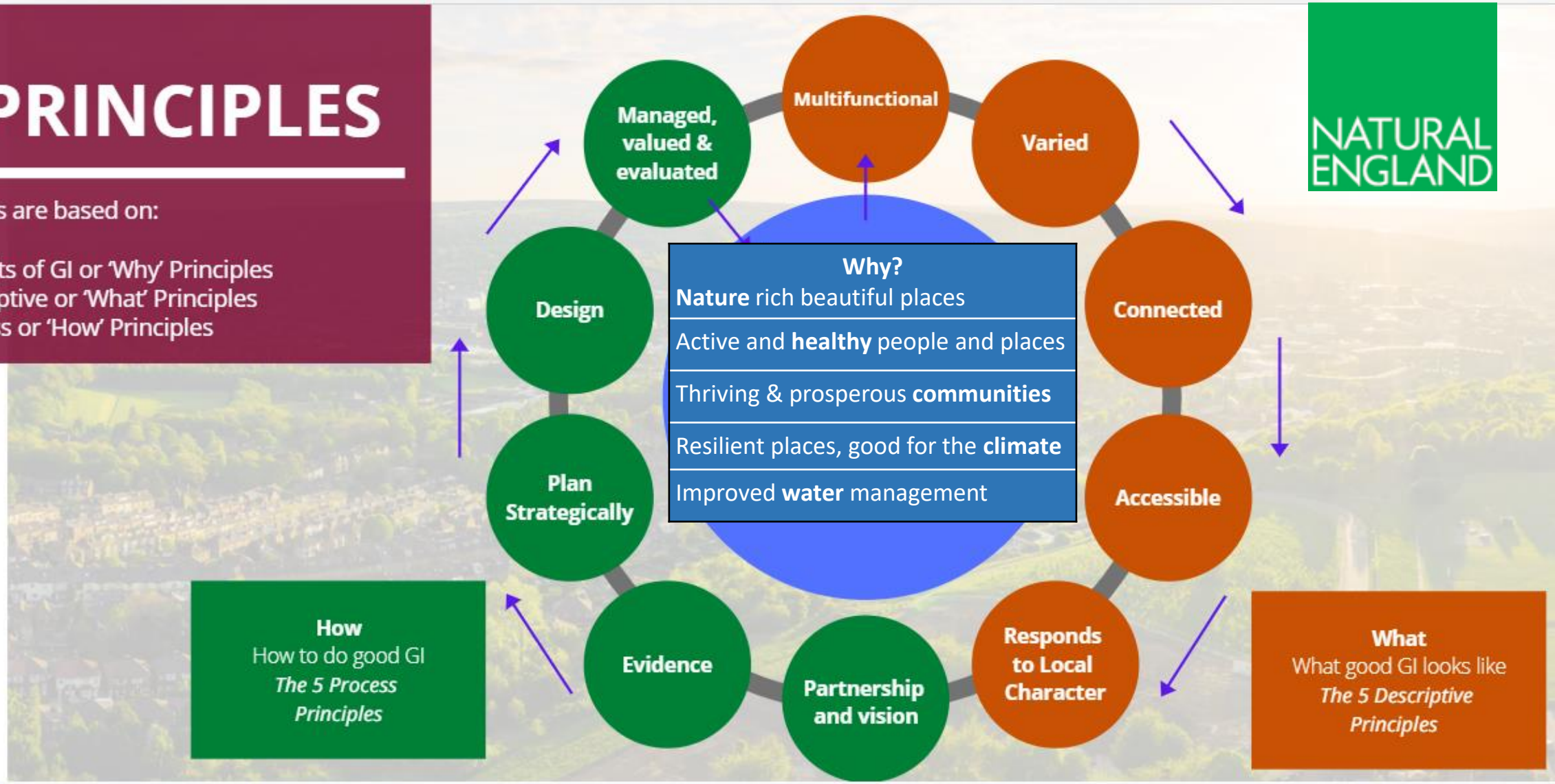
Green Infrastructure Framework - Principles and Standards for England



THE PRINCIPLES

The 15 Principles are based on:

- The 5 Benefits of GI or 'Why' Principles
- The 5 Descriptive or 'What' Principles
- The 5 Process or 'How' Principles

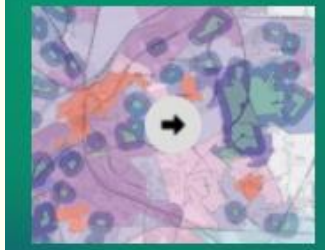


How Principles

Process principles: 'How' To do good Green Infrastructure (GI)

1. Partnerhsip and Vision

Work in partnership, and collaborate with stakeholders from the outset to co-plan, develop and deliver a vision for GI in the area. Engage a diverse and inclusive range of people and organisations including citizens, local authorities, developers, communities, green space managers, environmental, health, climate, transport and business representatives.



2. Evidence

Use scientific evidence, and good land use practices when planning and enhancing green and blue infrastructure. Understand the evidence for the benefits of current GI assets; and data on environmental, social and economic challenges and needs in the area.

3. Plan Strategically

Plan strategically and secure GI as a key asset in local strategy and policy, at all scales. Integrate and mainstream GI into environmental, social, health and economic policy. This should help to create and maintain sustainable places for current and future populations and address inequalities in GI provision and its benefits.

4. Design

Use an understanding of an area's landscape/townscape and historic character to create well-designed, beautiful and distinctive places.

5. Managed, valued and evaluated

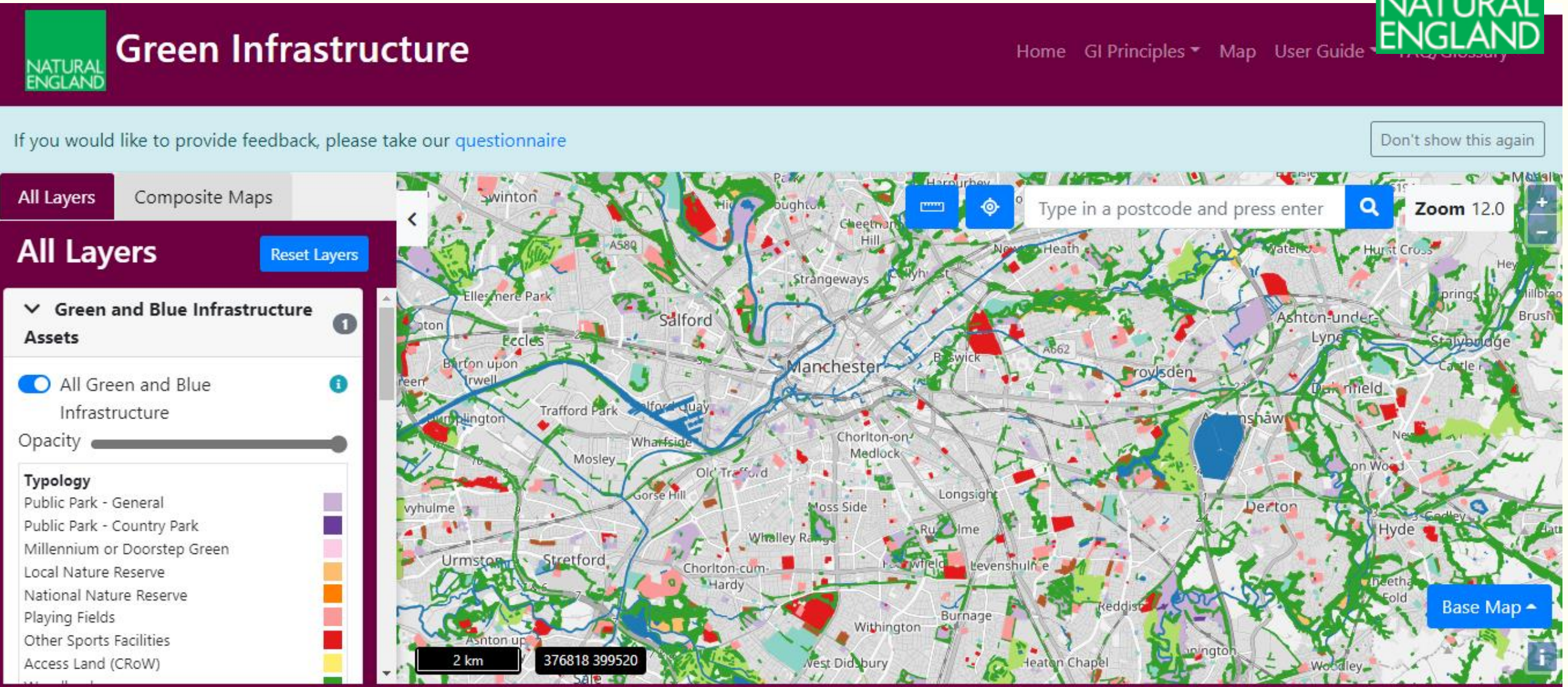
Plan good governance, funding, management, monitoring, and evaluation of green infrastructure as a key asset from the outset and secure it for the long-term. Make the business case for GI. Engage communities in stewardship where appropriate. Celebrate success and raise awareness of GI benefits.

Sustainable Development Goals

5 Benefits	SDG	5 Descriptions	SDG	5 Processes	SDG
Health Positive	3.4	Accessible	11.7	Partnership	16.7
Nature Positive	15.9	Connected	15.9	Evidence	11.B
Community Positive	16.7	Character	11.4	Strategic Planning	11.B
Water Positive	6.6	Multifunctional	11	Design	11.4
Climate Positive	13.1	Varied	11.7	Managed, valued and evaluated	15.A

Green Infrastructure Mapping Database

https://designatedsites.naturalengland.org.uk/GreenInfrastructure/map.aspx



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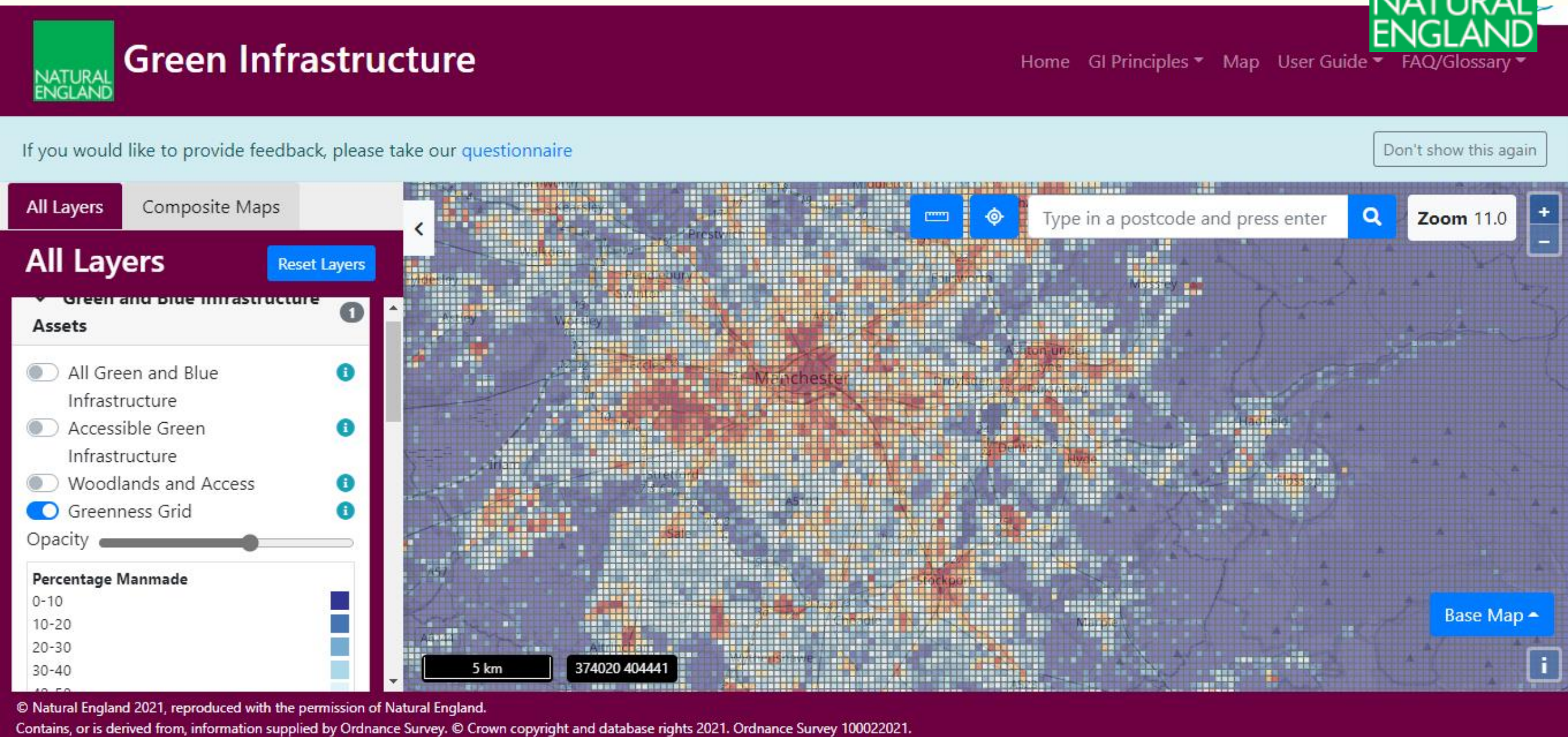
Map colors based on ColorBrewer, by Cynthia A. Brewer, Penn State

Greenness Grid



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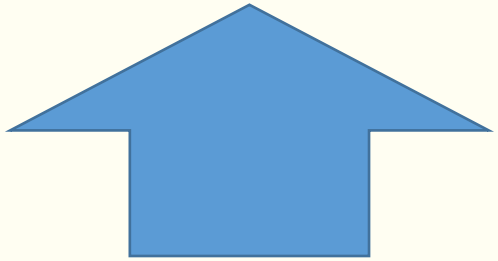
Menu of GI Standards to raise the bar

Draft Core GI Standards

1. Access - Accessible Natural Greenspace Standards
2. Green cover – National Urban Greening Factor
3. Trees/Canopy cover
4. Quality of green space/experience
5. Multi-functional benefits

Benchmarks

- New
- Existing



Accessible Natural Green Space Standards

(Draft Updated)

Name of criterion	Size distance criteria	Walking & Cycling Times
Doorstep Green Space	At least 0.5 ha within 200 metres	Under 5 mins walk
Local Natural Green Space	At least 2 ha within 300 m	5 mins walk 2 mins cycle
Neighbourhood Natural Green Space	10 ha within 1 km	15 mins walk 4 mins cycle
Wider neighbourhood	At least 20ha within 2km	35 mins walk
District	100 ha within 5 km	20 mins cycle
Sub-regional	500 ha within 10 km	40 mins cycle
Local Nature Reserves	At least 1 ha per 1000 people	

Initial analysis

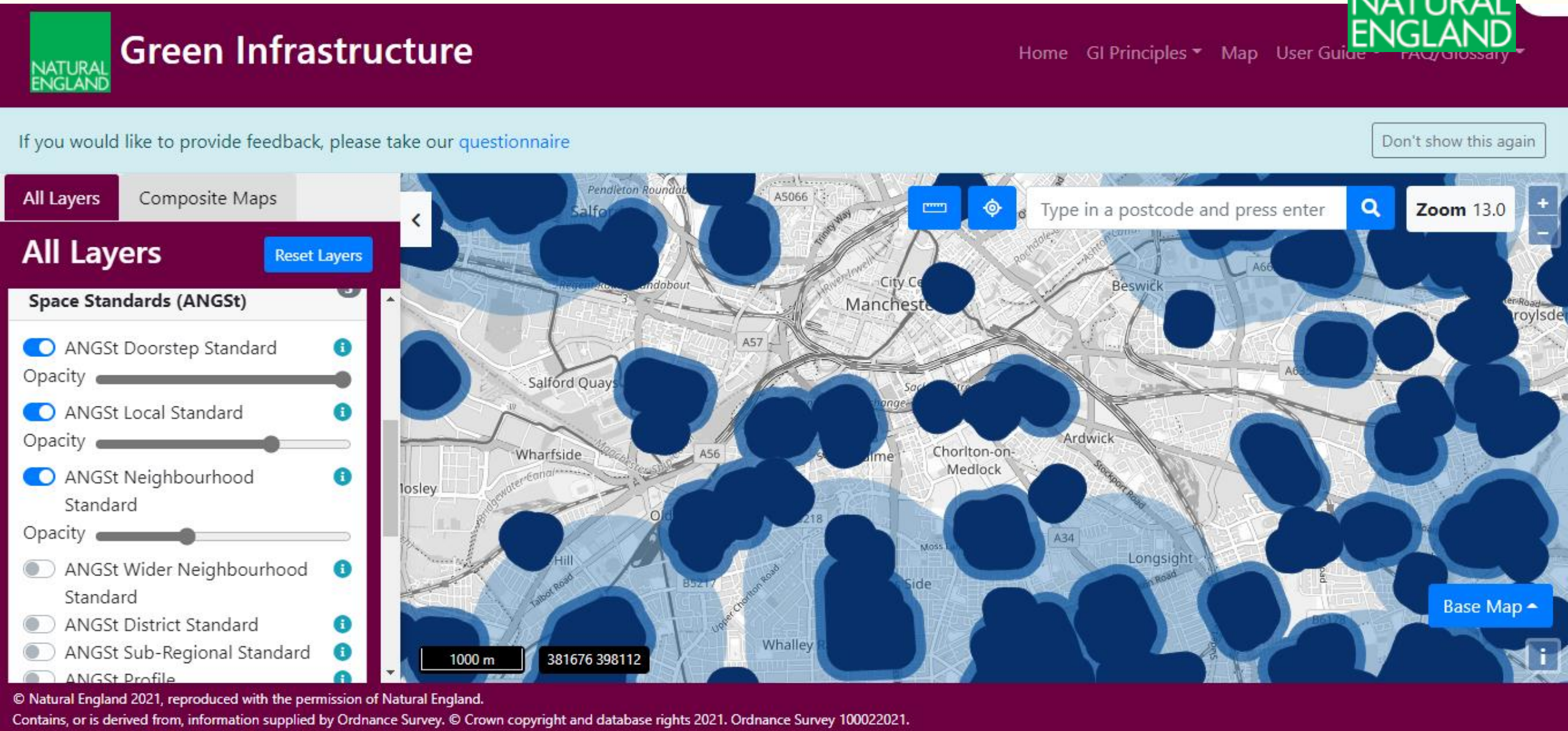
1 in 3 people meet this criteria

1 in 4 people meet this criteria

1 in 2 people meet this criteria

62% people live within one of the 3 local ANGSt buffers, i.e. a 15 minute walk zone

Mapping Accessible Natural Greenspace Standards



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Urban- Semi-urban- Rural

Metric	Average			National
	Rural	Semi-Urban	Urban	
Accessible Green Space Distance	997m	603m	305m	386m
Percentage of population within 15 Minute Walk Zone	24.8%	34.7%	69.0 %	62.2%
Mean Greenness	96 %	86 %	62 %	66%
Accessible Green Space Ha/1000	234.2 Ha	21.3 Ha	4.8 Ha	24.1Ha
Accessible Natural Green Space Ha/1000	230.4Ha	19.0 Ha	3.7 Ha	22.7Ha

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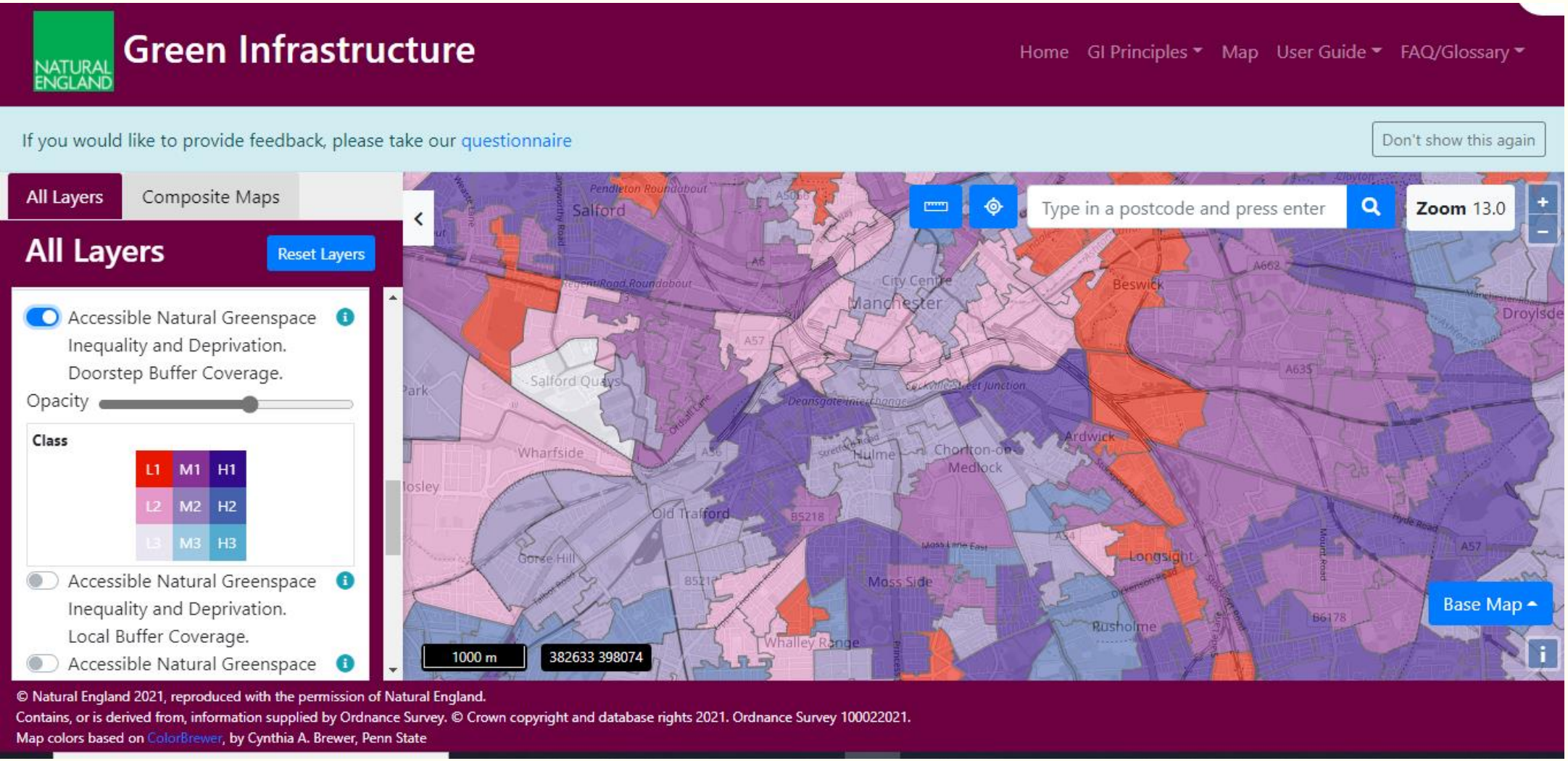
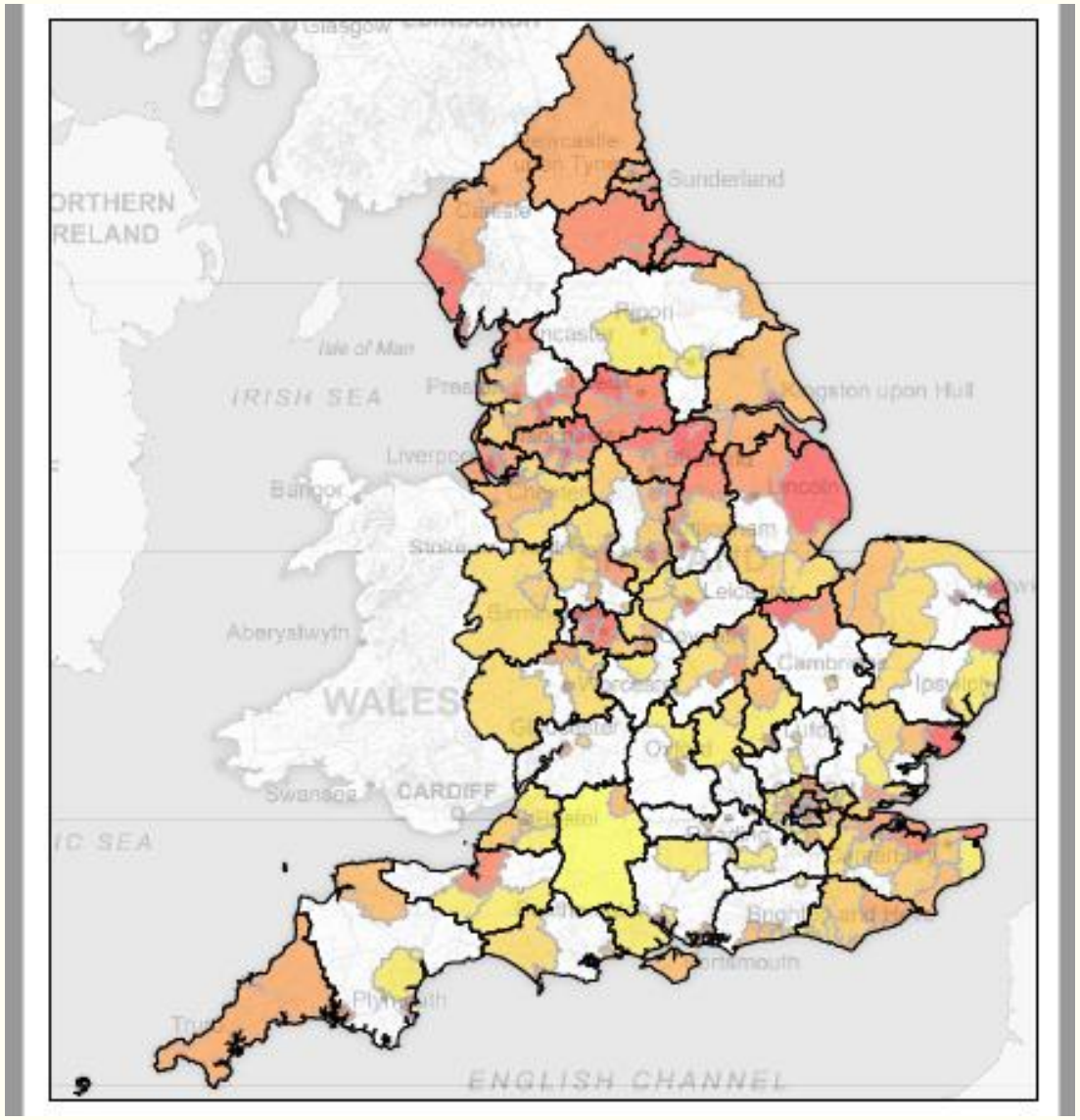
Natural Green Space Accessibility and IMD



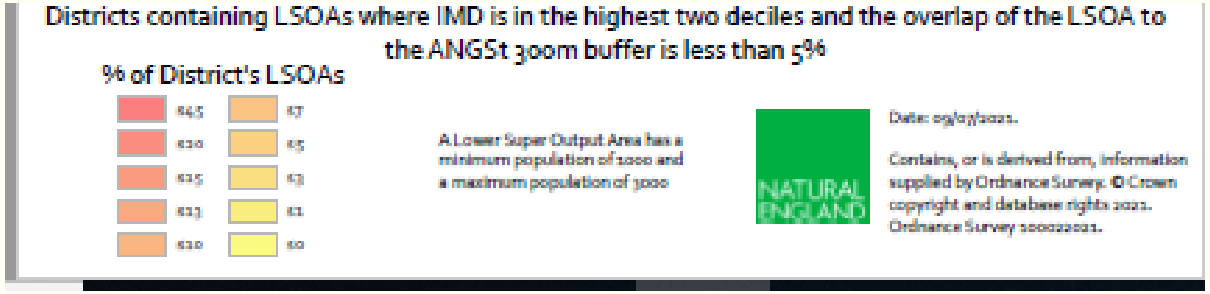
L1 = Least Favourable (Low accessibility and high deprivation).

H3 – Most Favourable (High accessibility low deprivation.

Low Access / High Deprivation

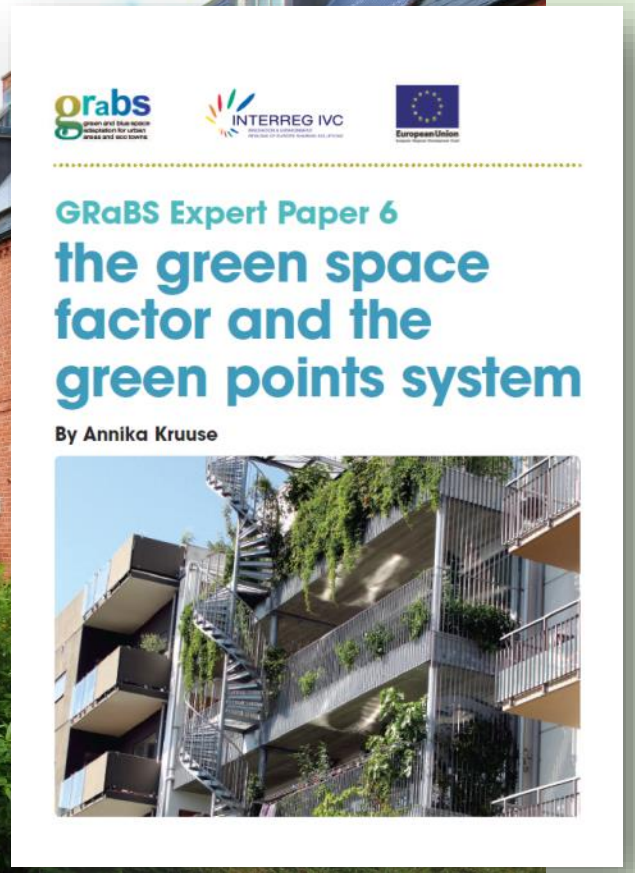


Lower Super Output Areas in England in the top 2 deciles of the 2019 Indices of Multiple Deprivation (IMD), mapped against places which have less than 5% of their area within 300 metres of a green space of at least 2Ha.



Urban Greening Factor (UGF)

Upton, Northampton



Kruuse, A. (2011) GRaBS Expert Paper 6 the green space factor and the green points system, TCPA

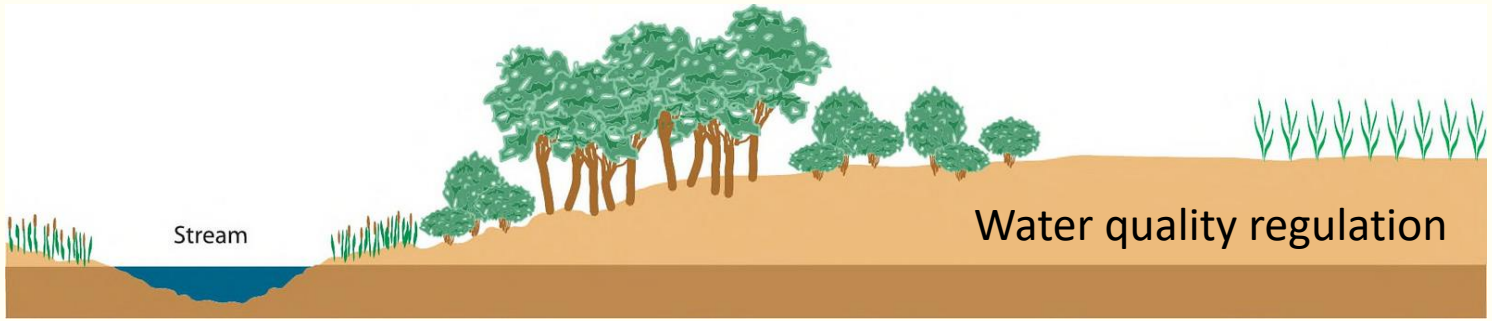
Massini, P., and Smith, H. (2018) Planning for green infrastructure - the green space factor and learning from Europe, PERFECT Expert Paper 2 / TCPA

Multi-functionality

Environmental Benefits from Nature Tool (formerly eco-metric)

publications.naturalengland.org.uk/publication/6414097026646016

	1 year	10 year	30 year
Food production	↓	↓	↓
Wood production	↗	↗	↗
Fish production	→	→	→
Water supply	↘	↘	↘
Flood regulation	→	↗	↗
Erosion protection	↗	↗	↗
Water quality regulation	↗	↗	↗
Carbon storage	→	→	↗
Air quality regulation	→	↗	↗
Cooling and shading	→	→	↗
Noise reduction	↗	↗	↗
Pollination	→	↗	↗
Pest control	→	↗	↗
Recreation	↑	↑	↑
Aesthetic value	↗	↗	↑
Education	↗	↗	↗
Interaction with nature	↗	↗	↑
Sense of place	↗	↗	↗



Next steps

- Further development and testing of Core GI Standards
- Launch of GI Framework in Autumn 2022
- Consultation on GI Framework – post-launch - refinement
- Rollout 2022 onwards
    - Collaborative approach
    - Training