

# Planning for Green Infrastructure in the UK - from little acorns to great oaks

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# GI = making the landscape functional = life support services



Using natural capital to deliver ecosystem services

# UK National planning policy

NPPF promotes GI through policies

NPPG defines GI in detail (after LI intervention)

Supported by:

- UK National Ecosystem Assessment
- Natural Capital Committee report
- Lawton Review – making space for nature
- Pitt Review – Lessons from the 2007 floods
- Landscape Institute – targeted messages

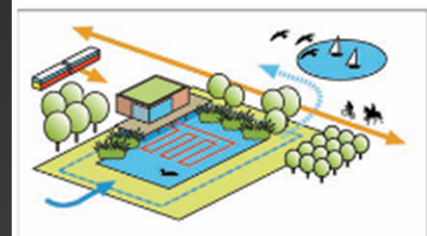
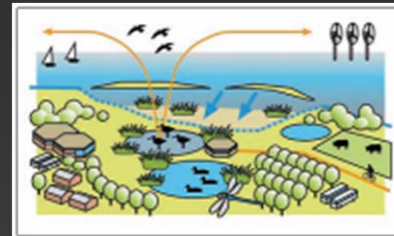
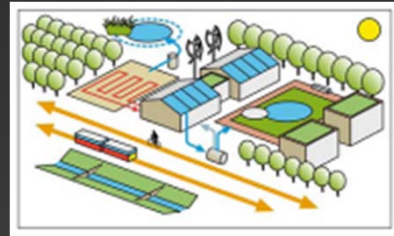
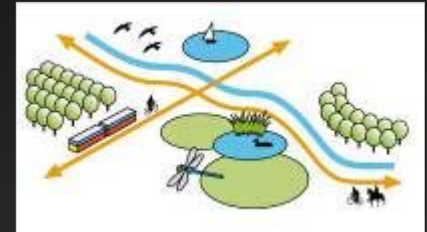




# The gi network – local to regional



Local green infrastructure:  
making the most of our landscape





# GI and the Landscape Institute



# GI – from grey to green

Natural environment provides life support functions (ecosystem services) + quality of life

Green assets are essential infrastructure – e.g. with transport, energy, waste, social and community facilities, etc.

GI is key component of efficient and sustainable land use planning



# UK Policy context

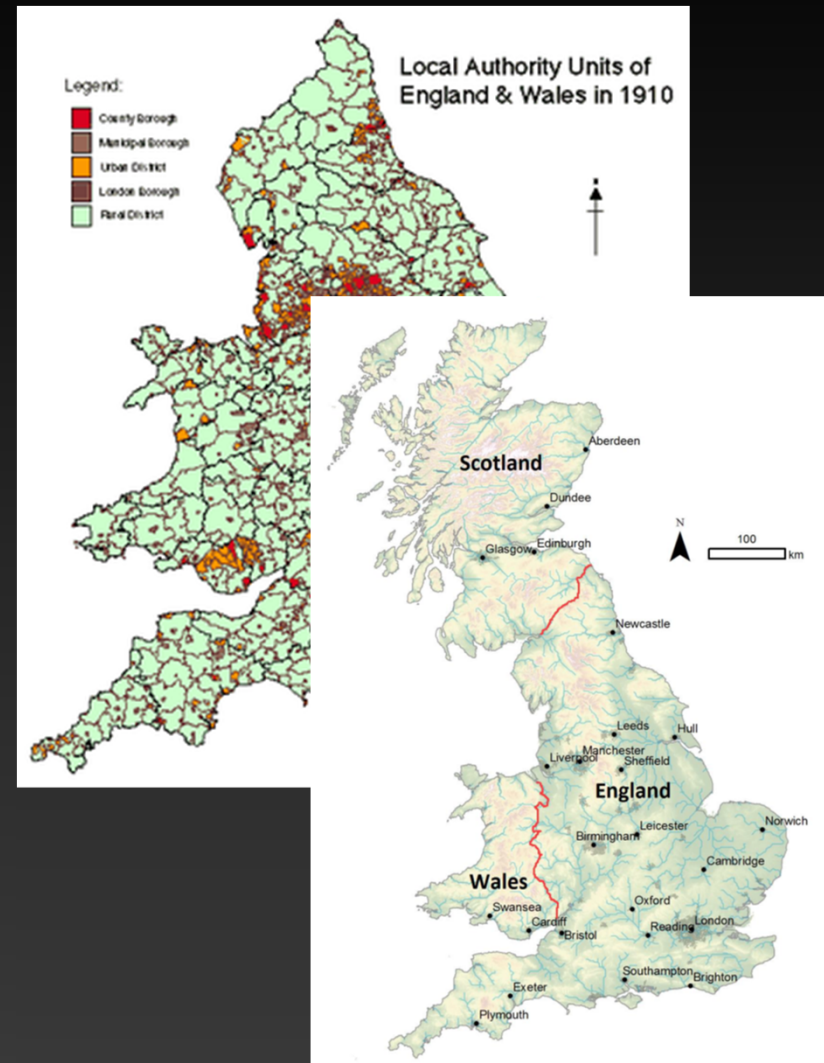
National Planning Policy Framework

National planning practice guidance

Regional and sub-regional plans

Local plans

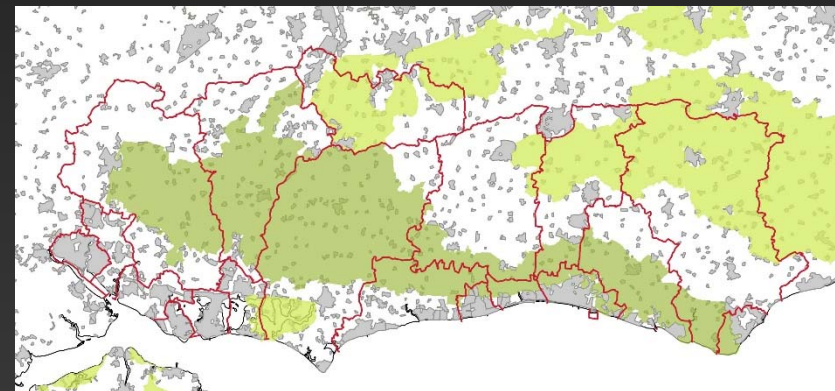
Neighbourhood plans





# Regional and Local Planning Policy

- London Plan promotes GI – and National Park City
- Local plans define development standards – GI strategies support
- South Downs National Park LP led by landscape and GI



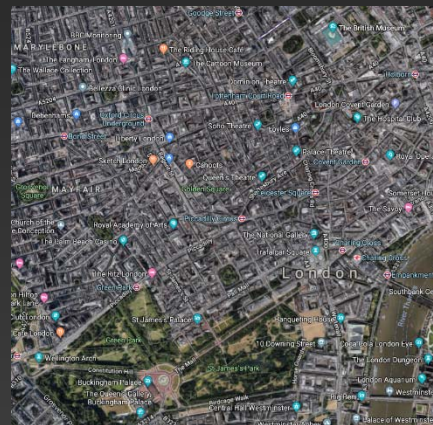
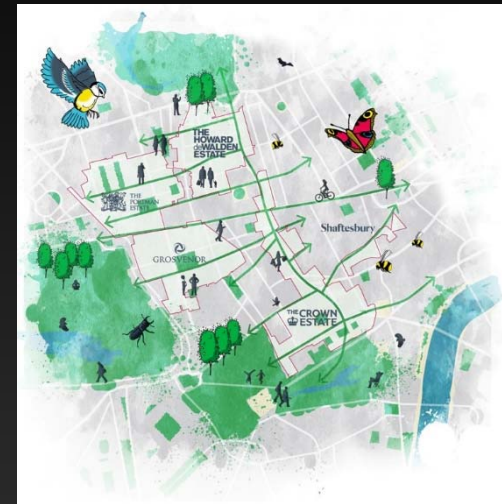
# Greater London Regional Plan

- Supports GI at strategic level
- Seeks implementation through policies and development management at borough level





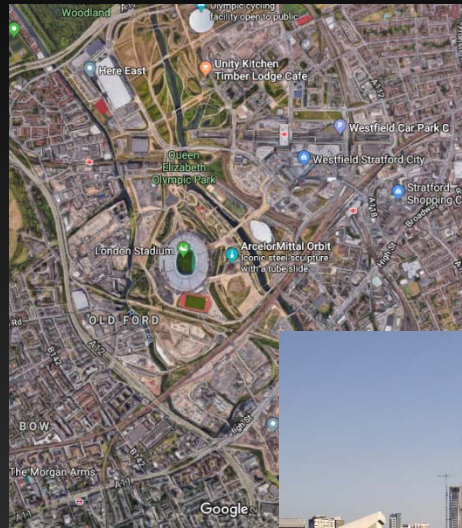
# GI in city masterplanning – the Wild West End





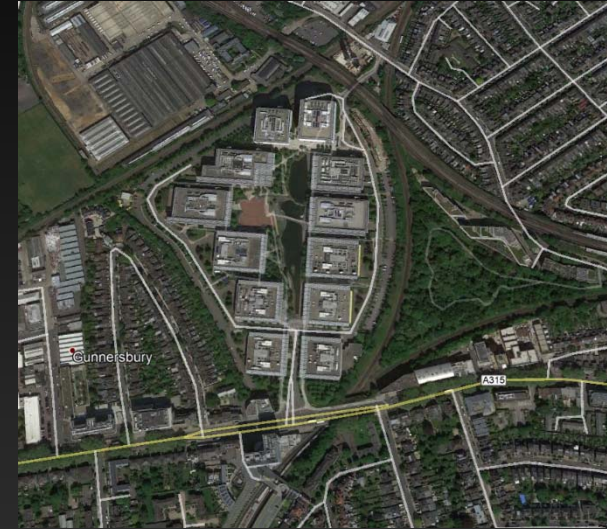
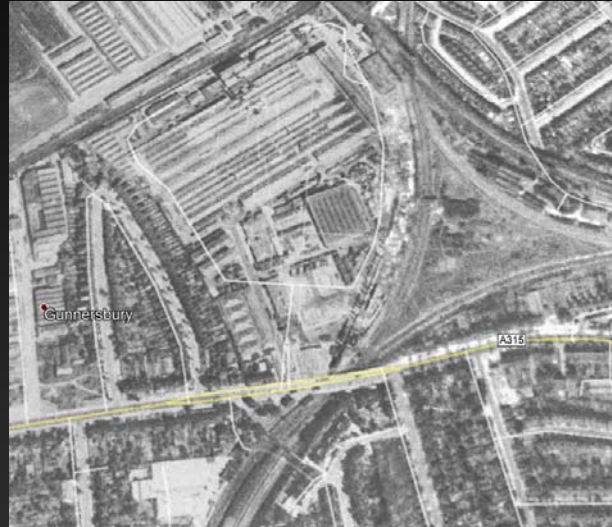
# New urban landscapes – Queen Elizabeth Park

Queen Elizabeth Park  
(2012 London Olympic legacy)



# New urban landscapes - Chiswick Park

Low  
carbon  
business  
centre and  
parkland





# New urban landscapes – Meridian Water, Enfield

Meridian Water,  
Enfield





# GI in new high density housing development



Accordia, Cambridge

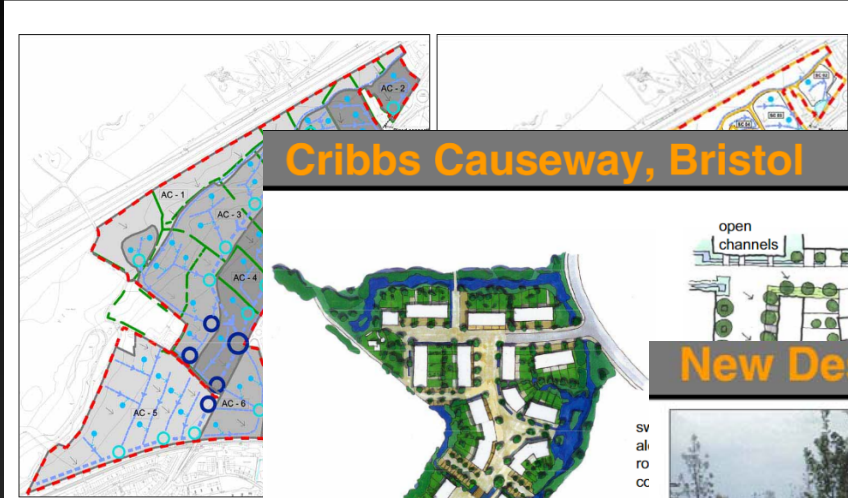


# GI at community scale





# GI, development and water management



Cribbs Causeway, Bristol

New Designs

illmanYOUNG™

illmanYOUNG™

illmanYOUNG™



illmanYOUNG™

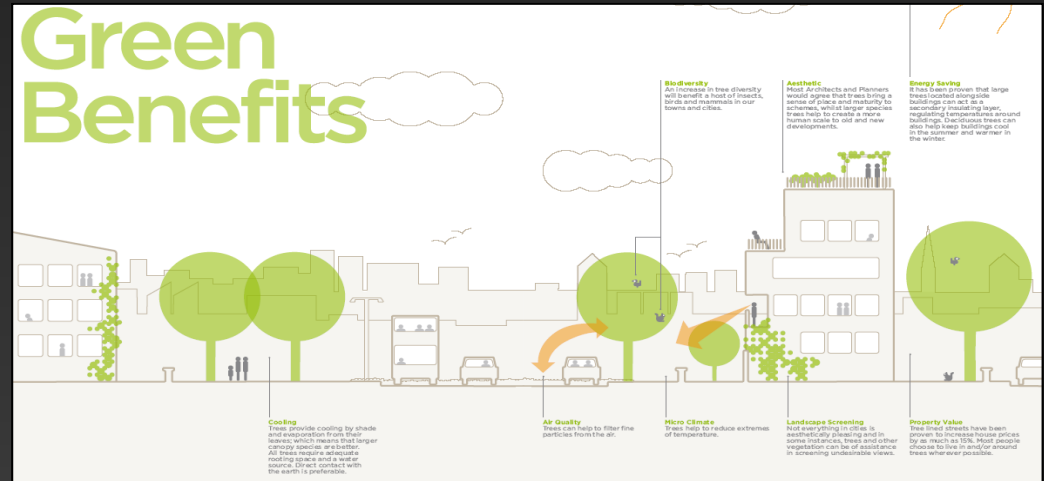
Open water features within Mews



# GI and the urban forest



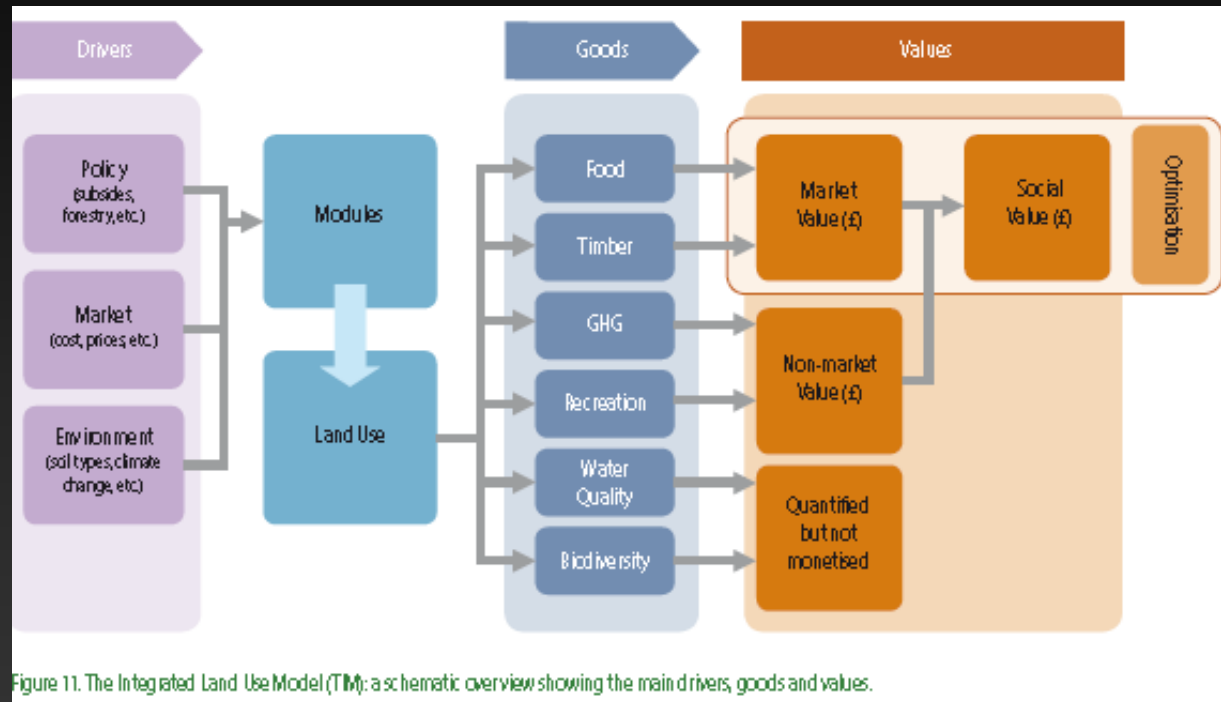
See [www.TDAG.ORG.UK](http://www.TDAG.ORG.UK)



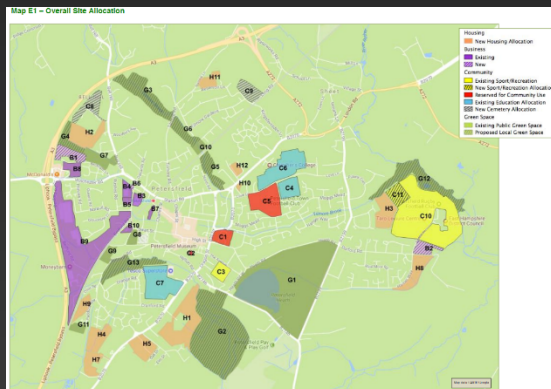
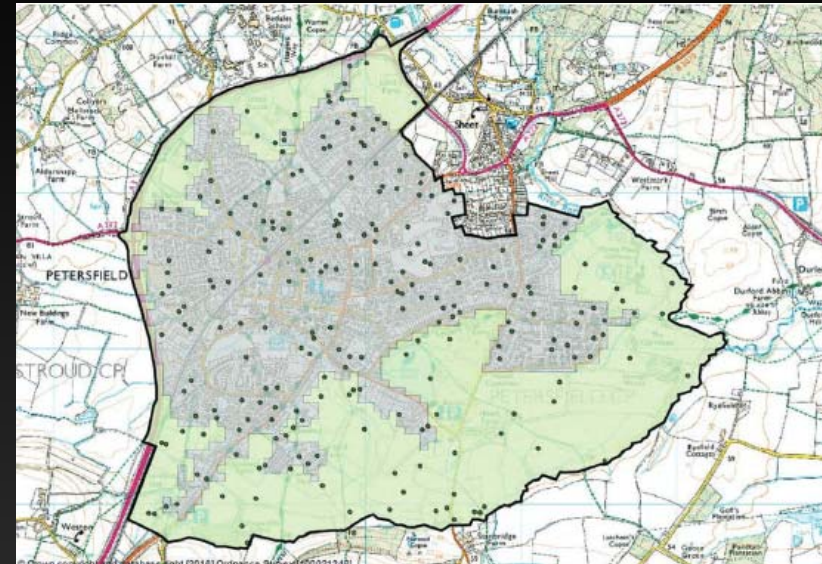
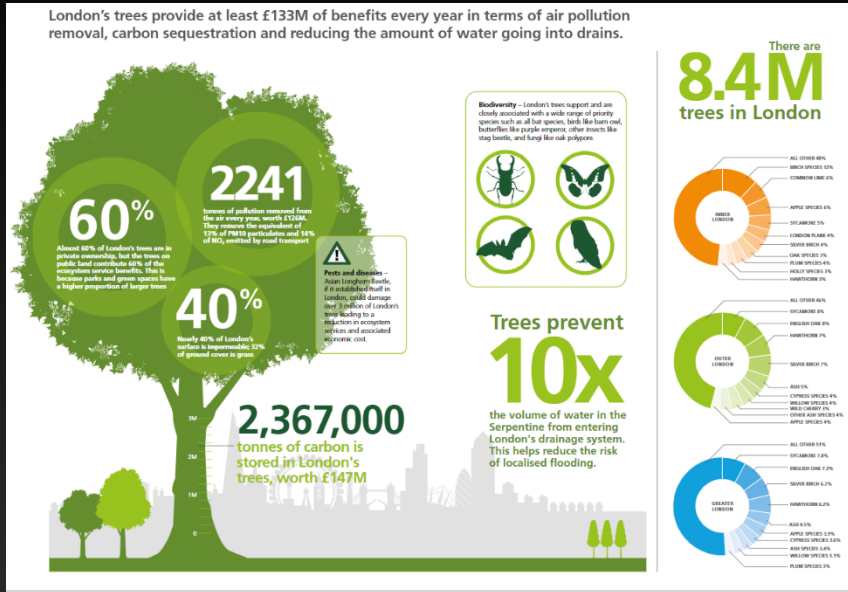
# GI – value needs to be measured

## GI valuation tools

- i-trees eco
- CAVAT for tree amenity value
- EcoServe-GIS for multi-functionality
- $GI = \text{€} / \text{£} / \text{\$}$



# Tools: i-Tree Eco to value urban tree benefits

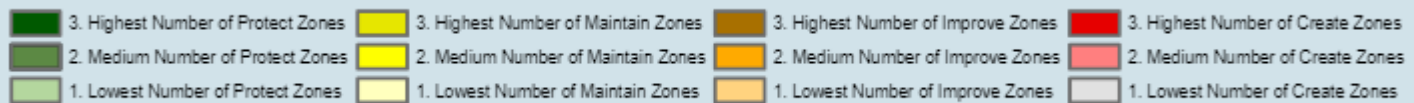
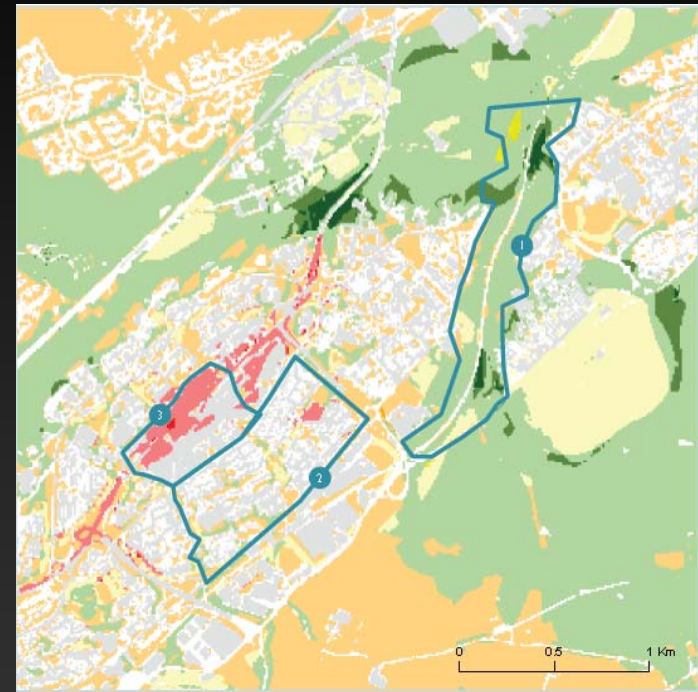
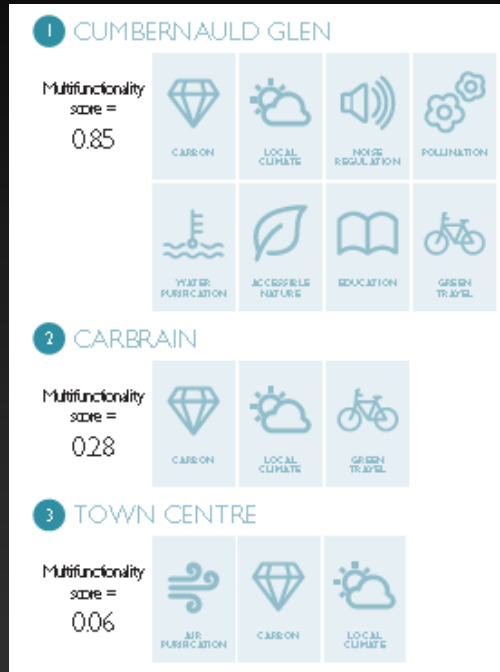


## Values

<b>Air pollution removal (trees and shrubs)</b>	<b>6.43 tonnes per annum</b>	<b>8 kg per ha</b>
<b>Carbon storage</b>	<b>18,260 tonnes</b>	<b>23 tonnes per ha</b>
<b>Net C sequestration</b>	<b>580 tonnes per annum</b>	<b>724 kg per ha</b>
<b>Avoided runoff</b>	<b>12,779,000 litres per annum</b>	<b>15,900 litres per ha</b>
<b>Replacement cost</b>	<b>£50.7 million (Structural value)</b>	
<b>Amenity asset value</b>	<b>£498 million (CAVAT)</b>	<b>£8,220 per tree</b>
<b>Total annual benefit</b>	<b>£75,000 air pollution removal, carbon storage and avoided runoff only</b>	



# Tools – EcoServ-GIS in Cumbernauld



Sustainable land management interventions informed by survey

# Tools - CAVAT tree valuation



## CAVAT

SPREADSHEET TO CALCULATE VALUE OF INDIVIDUAL TREE STOCK (FULL METHOD)

© Christopher Neelan  
Created by Alexandra Sleet

Only enter data in the green boxes

CAVAT	Quantities you measure / look up	Calculated Values
<b>Step 1: Basic Value</b>		
Stem Diameter	<input type="text" value="98.6"/>	Value Bands Table  <input type="text" value="£116,519"/>
Unit Value Factor	<input type="text" value="15.26"/>	
Basic Value		
<b>Step 2: CTI Value</b>		
CTI Factor	<input type="text" value="125%"/>	<input type="text" value="£145,649"/>
Accessibility	<input type="text" value="100%"/>	
CTI Value		
<b>Step 3: Functional Value</b>		
Functional Value Factor	<input type="text" value="100%"/>	<input type="text" value="£145,649"/>
Functional Value		
<b>Step 4: Adjusted Value</b>		
Amenity Factors	<input type="text" value="2"/>	<input type="text" value="£174,779"/>
Appropriateness	<input type="text" value="No Change"/>	
Adjusted Value	<input type="text" value="120%"/>	
<b>Step 5: Final Value</b>		
SLE Factor	<input type="text" value="80+"/>	
<b>FINAL VALUE</b>		<input type="text" value="£174,779"/>

# Challenges to GI delivery?

## Issues:

- Identifying strategic objectives
- Disconnect between providers and beneficiaries
- Engaging non-green actors
- Redefining operational objectives
- Collaboration and co-operation between organisations / professions / business interests

## Responses:

- Interventions by regulation and policy
- Payments for ecosystem services
- Environmental responsibility



# Start small – think big

