

Ecosystem accounts

UK experience with valuation

Adam Dutton

Head of Natural Capital, ONS

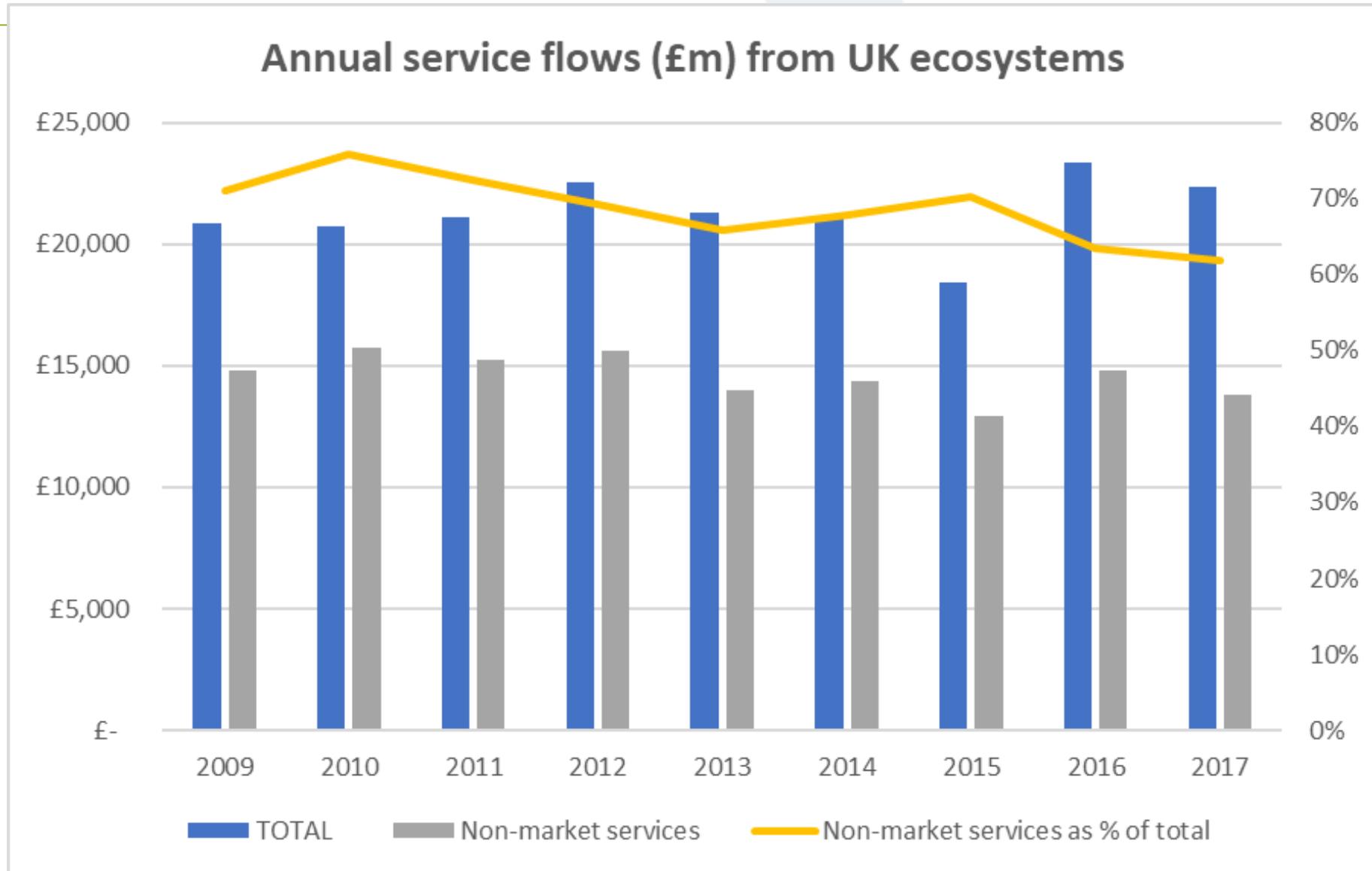
Virtual Expert Forum on Ecosystem Accounting

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Content

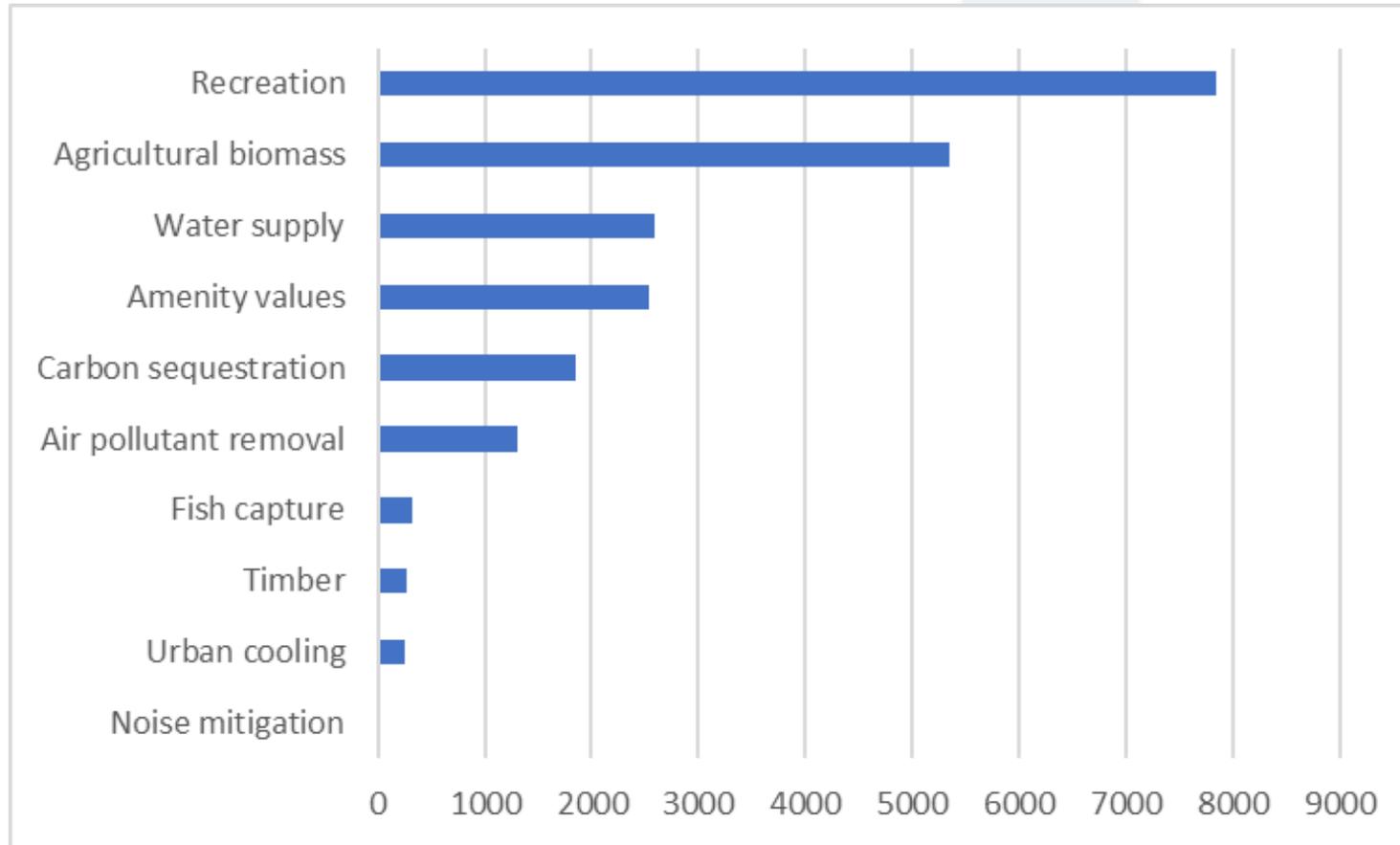
1. High level of overview of services valued in the UK ecosystem accounts
2. Short dip into three services in particular
 - Provisioning services – agricultural biomass
 - Regulating services – air filtration
 - Cultural service – amenity values
3. Policy relevant accounts – ecosystem services in urban areas
4. Governance arrangements and resources
5. Key messages

The story so far



Ten ecosystem services valued

UK ecosystem services 2017 (£m 2018)



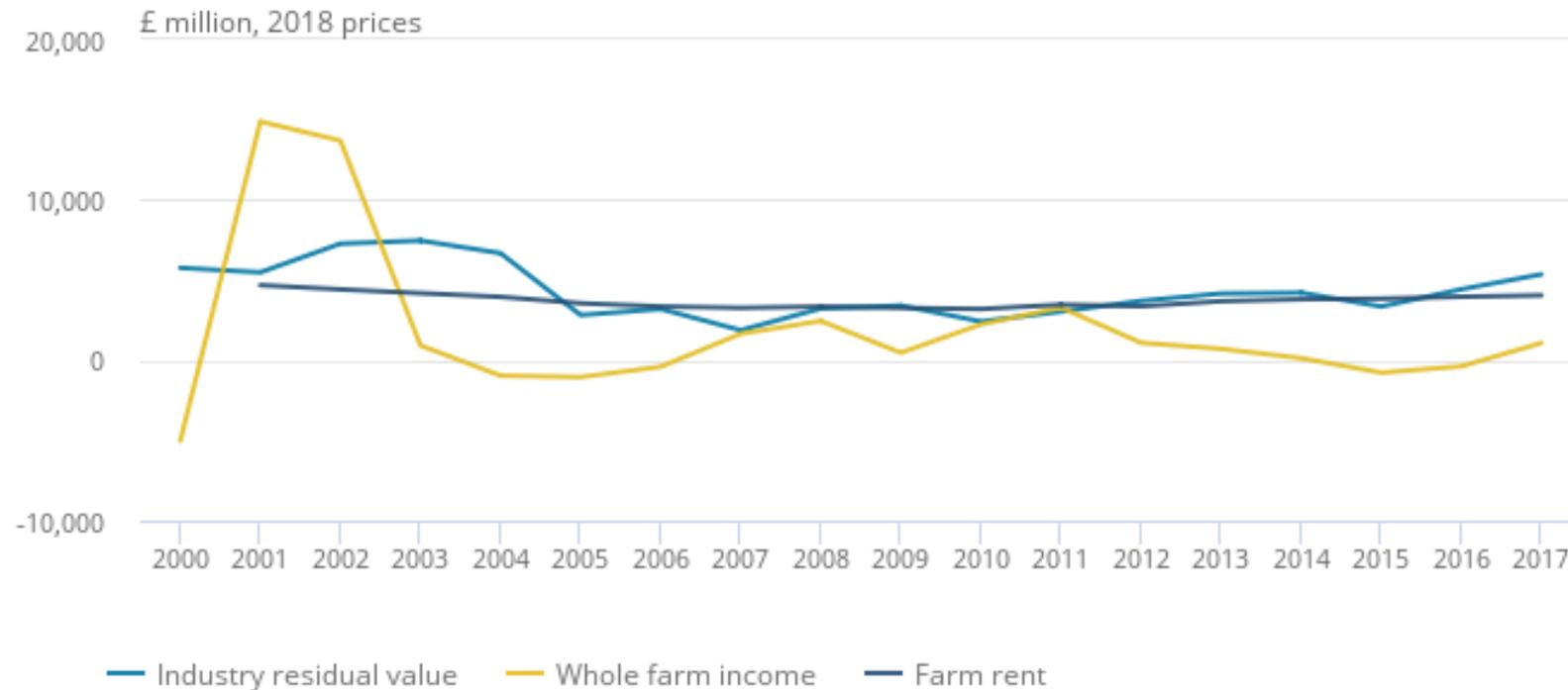
Methods are still evolving

Services covered and methods used	Work underway	To be considered
<p>Agricultural biomass (residual rent) Timber (stumpage prices) Water supply (residual rent) Carbon Sequestration (replacement costs) Pollution Removal (WTP to avoid damages) Recreation (expenditure) Fish capture (micro- residual rent) Urban cooling (avoided costs) Noise mitigation (WTP to avoid damages) Amenity values (house prices)</p>	<p>Agricultural biomass (rental values) Recreation services to Tourism and Outdoor Leisure sectors Flood protection / water flow regulation</p>	<p>Water purification Waste mediation</p>

Agricultural biomass - valuation

Figure 4: Farm income is highly variable but farm rents are stable

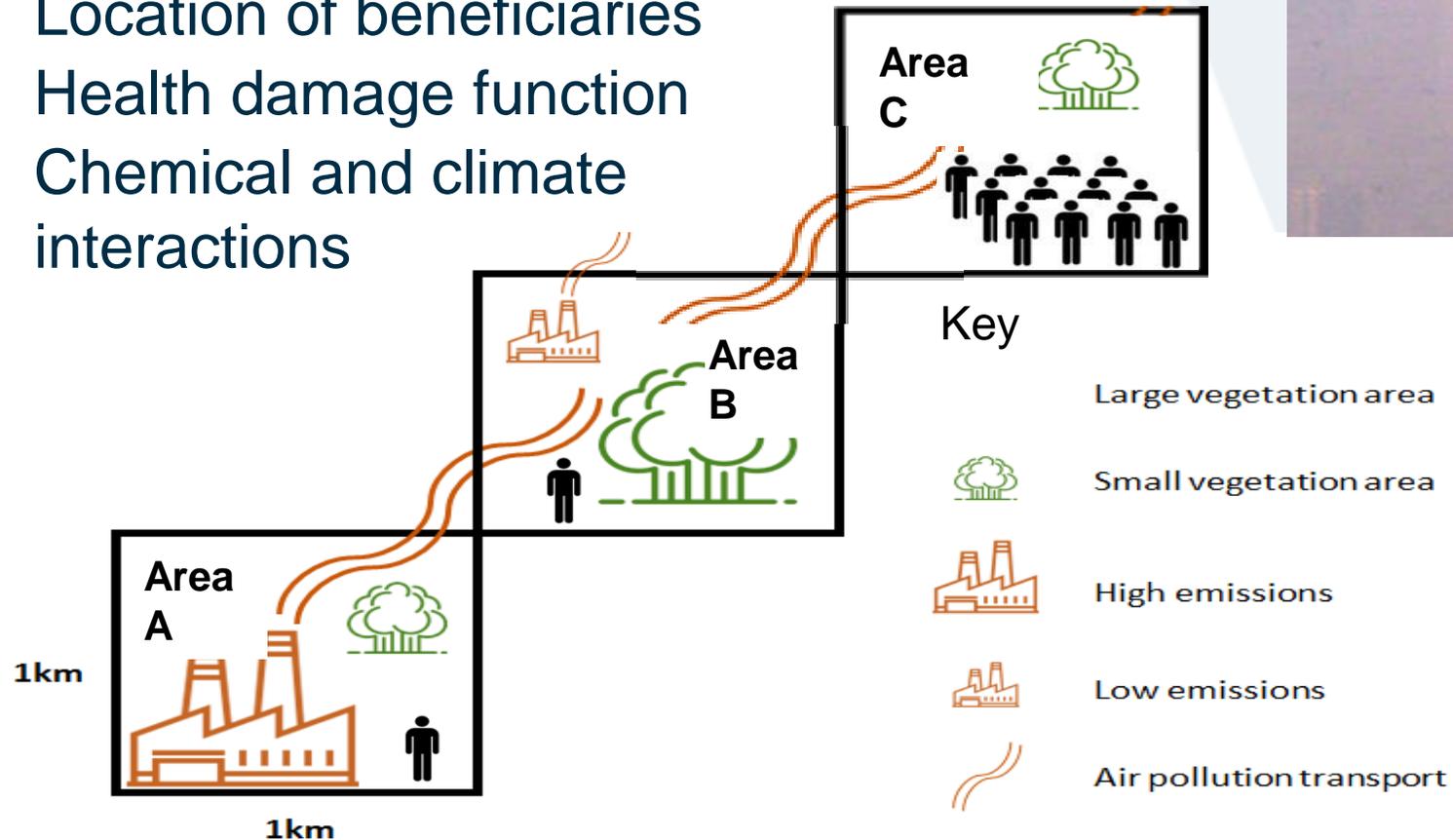
Annual valuation methods comparison, £ millions (2018 prices), UK, 2000 to 2017



Air filtration – somewhat more challenging

Atmospheric transport:

- I. Location of beneficiaries
- II. Health damage function
- III. Chemical and climate interactions



Mortality and morbidity functions used in the evaluation of air filtration health benefits (PM2.5)

	Change in risk per 10 $\mu\text{g}/\text{m}^3$	Age group	Rate per person	Value, £
Respiratory hospital admissions	1.09%	All ages	0.01139	6,650
Cardiovascular hospital admissions	0.91%	All ages	0.013	6,450
Life years lost (as a result of long-term exposure)	6.00%	All - % change fed into life tables to generate adjustment factor	1	20,000-60,000

Amenity values, based on detailed local maps

Ordnance Survey Greenspace map

Publicly accessible greenspace

- Parks/public gardens
- Playing fields
- Cemetery
- Open access land
- Religious grounds

Non-publicly accessible greenspace

- Golf course
- Allotments and growing spaces
- Bowling green
- Other sports facilities

Non functional greenspace

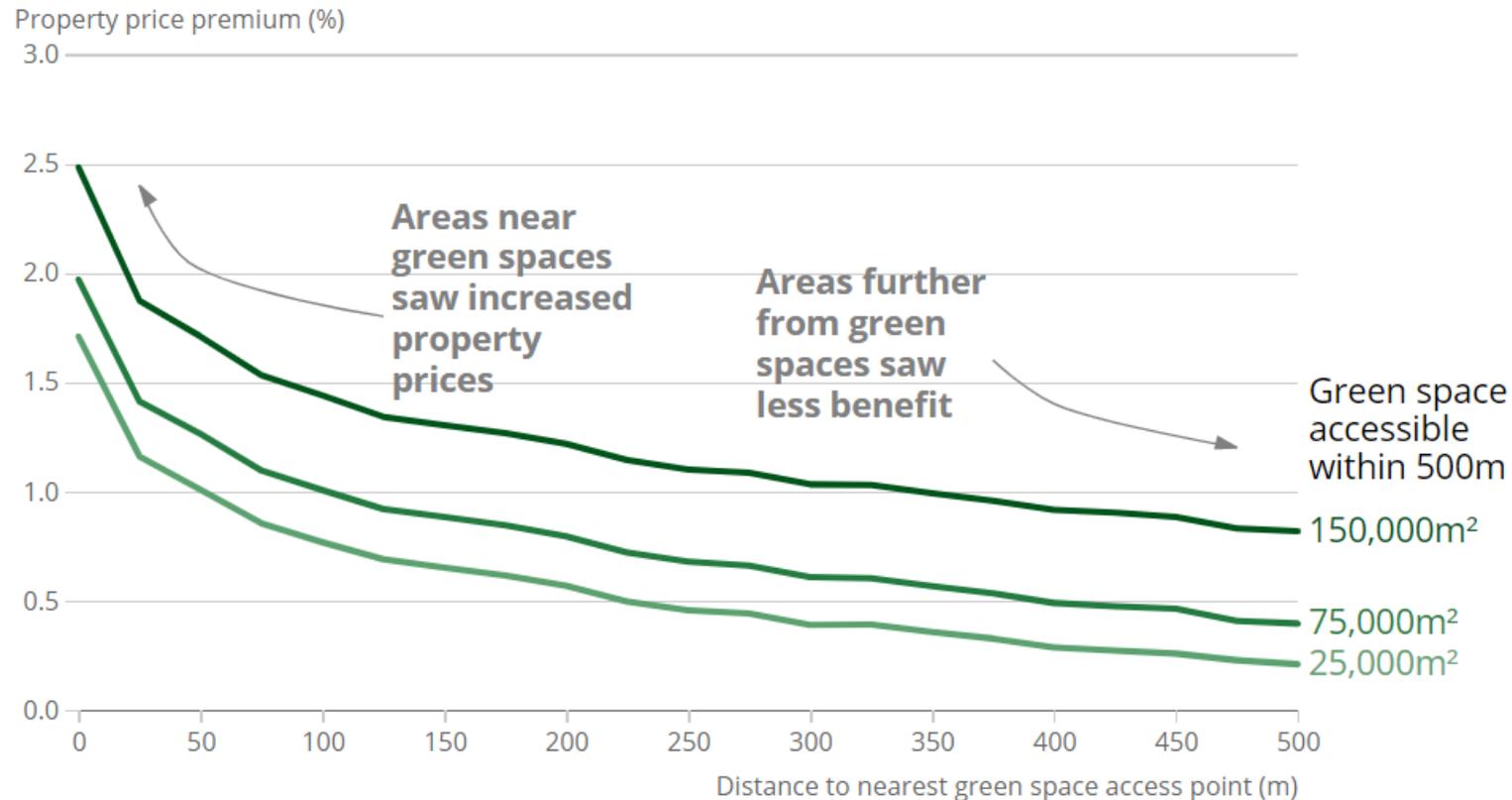
Blue space



Natural Land Cover Area Within 100m, 200m, 500m...

... and an analysis of property prices

Property price premium (%) for proximity to accessible green space of different sizes

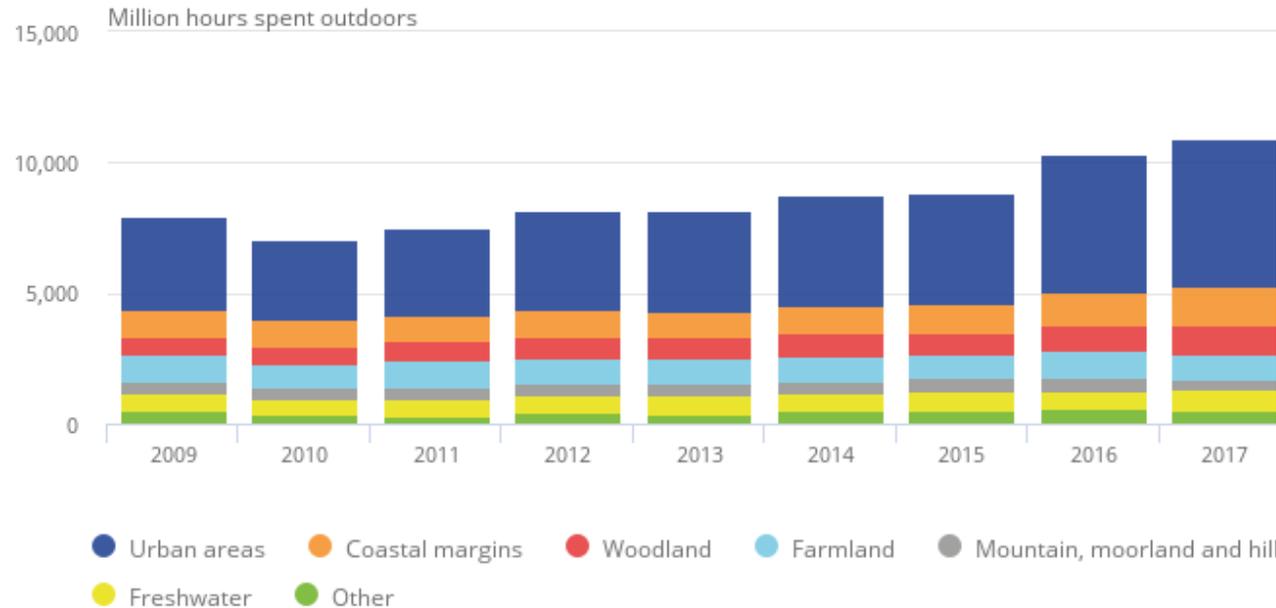


Source: Office for National Statistics

Cultural services (recreation-related) are particularly important in urban areas

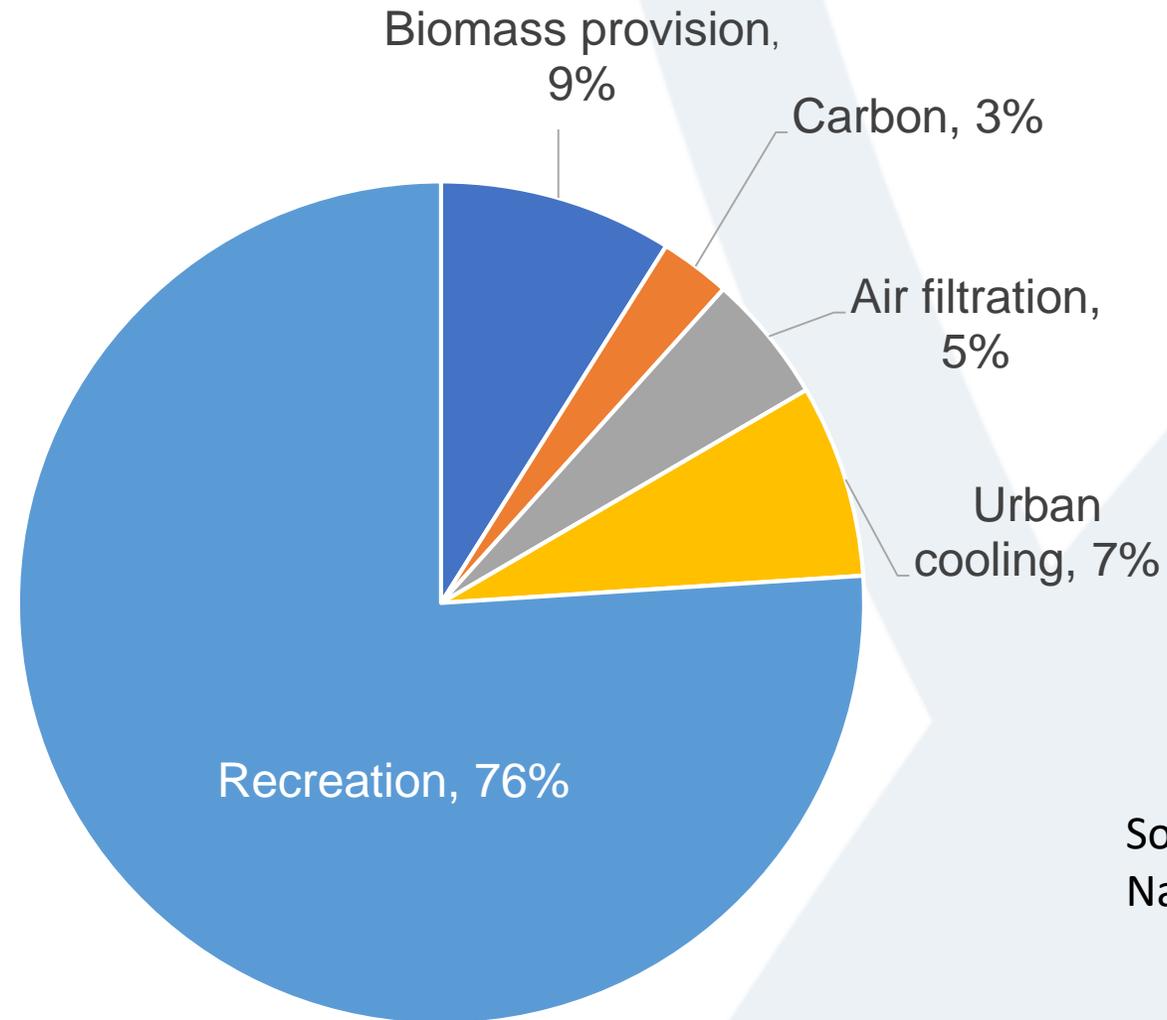
Figure 33: Across the time series, the most time spent in the natural environment was in urban areas

Flow of outdoor recreation, million hours spent outdoors, UK, 2009 to 2017



Source: Monitor of Engagement with the Natural Environment Survey, The Welsh Outdoor Recreation Survey, Scotland's People and Nature Survey

Ecosystem services flows in UK urban areas



Source Office for
National Statistics

Development process and lessons learned

- Commitment to develop the accounts was made in 2012 – has taken 8 years and counting
 - Resources used include those in the National Stats Office and the Policy Ministry, also private sector consultants
 - Understanding and reporting on uncertainty remains a challenge
- Not a one-off
 - Start low, aim high
 - Will only get better

Key messages

- Valuation has enabled the relative importance of non-market services to be widely understood and appreciated
 - Has brought more clarity and rigour to strategic and environmental impact assessments
 - Urban accounts hugely relevant to policy on green infrastructure in the UK
 - UK Government “walking the talk” – establishing methods and approaches; directly used in sub-national applications; private sector is developing tools to enable wider use
- Not a one-off
 - Start low, aim high
 - Will only get better

Report to plenary

