

Tools for Economic Valuation of Urban Natural Assets

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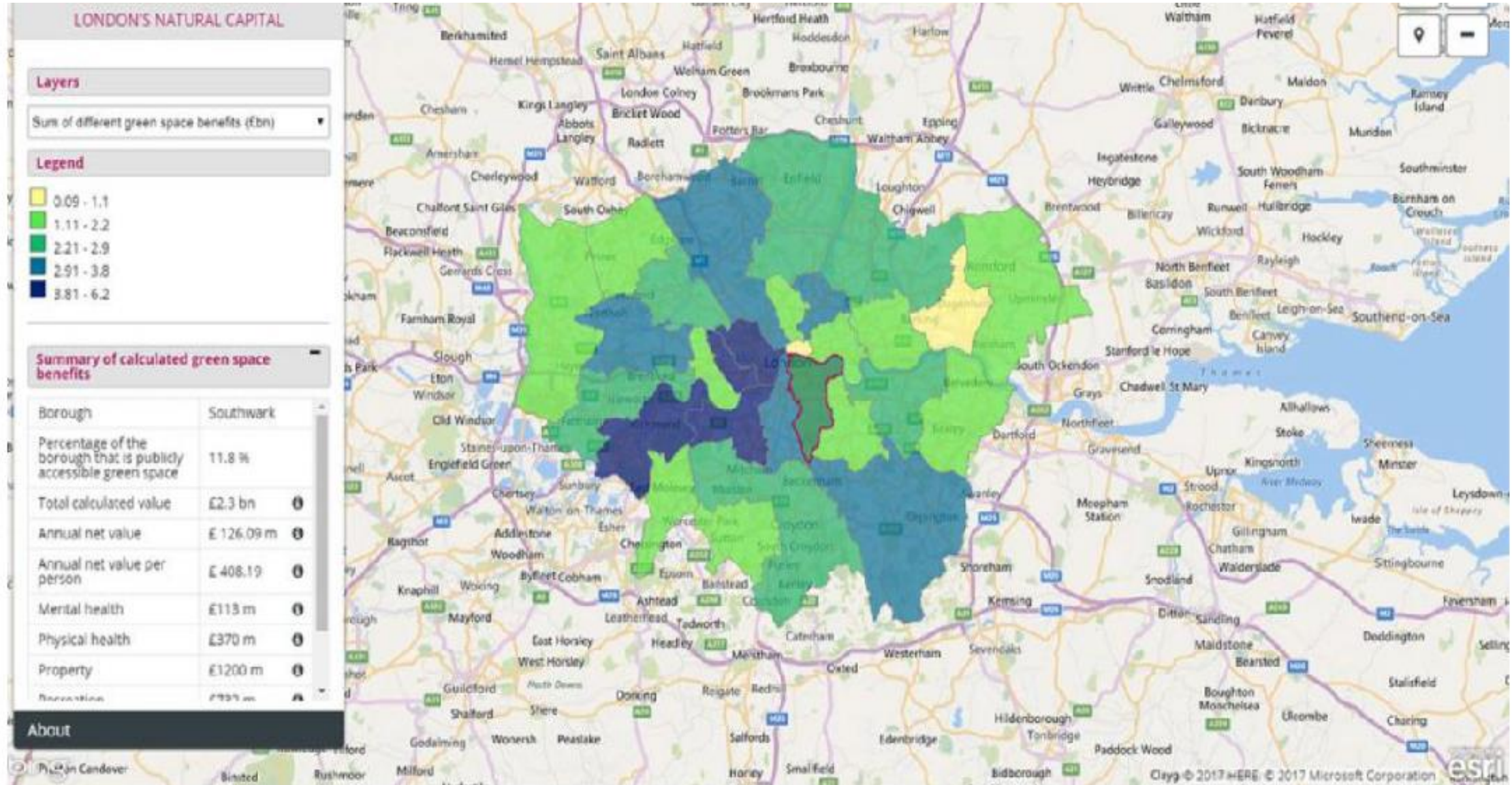


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Social, Urban, Rural & Resilience

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London: Economic Evaluation of Natural Assets



London's Economic Evaluation on the value of multiple ecosystem services provided by urban green and blue assets

Services provided by natural assets	Public services (£ billions)	Residents (£ billions)	Business (£ billions)	Total (£ billions)	Share (%)
Recreation		17		17	19
Mental health	1	3	2	7	7
Physical health	2	5	3	11	12
Amenity		56		56	61
Carbon (soil)				<1	1
Carbon (trees)				<1	<1
Temperature		1		1	1
Gross asset value	3	82	5	91	100
	4%	90%	6%	100%	

Using a modeling tool to assess cooling and ecosystem services provided by natural assets:

- Urban cooling effect
- Health benefits
- Carbon sequestration
- Recreation

Guangzhou Haizhu urban wetland: located in the urban core area of 200,000 people

The modeling was conducted by Natural Capital Project



Modeling Results

Ecosystem Service	Supply Metric	Value Metric(s)	Valuation Modeling Approach	Value of the Wetland (30 year horizon)
Urban cooling*	Air Temperature	Productivity	Loss of workplace productivity as a result of temperature and humidity	Up to 16.1% in avoided productivity losses for nearby districts
		Private cost of cooling	Cost of cooling (and heating) as a function of temperature	\$1.9 million USD
		Mortality risk	Relative risk of mortality or morbidity as a function of temperature and region	Up to 1.27% in avoided mortality risks for nearby districts
Climate change mitigation*	Carbon Stored or Sequestered	Social cost of carbon	Net present value of change in damages from carbon emissions	\$77.8 million USD (7.4 million tons of avoided emissions)
Recreation*	Access (distance to parks)	Willingness-to-pay	Entry or use-fees; willingness-to-pay	\$67.8 million USD
Physical health	Access to urban nature (e.g., distance to parks, tree-lined streets, urban gardens, trails etc.)	Avoided cost of treatment	Change in costs associated with treatment to restore original physical health level	\$4.2 million USD
Mental health	Access to urban nature (e.g., views of greenery, distance to parks, amount of trees in neighborhood)	Avoided cost of treatment	Change in costs associated with treatment to restore original mental health level	\$70.1 million USD

CONFERENCE EDITION

Natural Asset and Biodiversity Valuation in Cities



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Assessment of Key Ecosystem Services Provided by the Haizhu National Wetland Park in Guangzhou, China



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