Key Findings

Bristol City Administrative Area Total	
Number of Trees in Bristol:	600,000 (500,000 - 740,000)
Tree Canopy Cover:	12% (9.6% – 14.2%)
Most Common Species:	Ash *(Fraxinus excelsior)*, Hawthorn *(Crataegus monogyna)*, Sycamore *(Acer pseudoplatanus)*

Benefit		Annual Benefits
Air Pollution Removal *(per year)*	100 (80-120) tonnes/year	£1.6 (1.3 – 1.9 million)/year
Carbon Dioxide Removal *(per year)*	14,000 (11,000 – 17,000) tonnes /year	£920,000 (£740,000 – £1.1 million)/year
Reducing Flood Risk *(per year)*	90,000 (72,000 -108,000) m3/year	£140,000 (£112,000 – £167,000)/year
	Total annual benefits	**£2.7 (2.1- 3.2) million/year**

		Total Benefits
Carbon Storage		£23 (18.5-28.5) million
Replacement Cost		£260 (205-306) million
	Total net value	**£280 (224 -324) million**

Notes

Tree Canopy Cover: Figure from the iTree Eco 6 Bristol study (2018) based on data recorded in survey plots and confirmed in a review of aerial imagery for the same plots.

Most Common Species: Figure from the iTree Eco 6 Bristol study (2018) based on data recorded in surveyed plots.

Annual Benefits: Total of figures from the iTree Eco Bristol 6 study (2018), refined to include the latest UK values, by Treeconomics.

Air Pollution Removal: Calculated by Treeconomics using UK values for NO2, PM, and SO2 and US externality values included in iTree Eco 6 for other pollutants. Prices: £0.98 per kilogram (CO), £4.85 per kilogram (O3), £45.38 per kilogram (NO2), £1.95 per kilogram (SO2), £104.44 per kilogram (PM2.5). Values also include the role of small shrubs.

Carbon Dioxide Removal: How much carbon dioxide is removed (sequestered) by Bristol's trees, value calculated using the UK Government figure of £65 per tonne (2018). (1 tonne= 1 metric ton.)

Reducing Flood Risk: Based on the amount of water held in the tree canopy and re-evaporated after rainfall. The value is based on an average volumetric charge of £1.516p per m³ and includes the cost of avoided energy and associated greenhouse gas emissions. The avoided run-off figure is based on the closest average rainfall figure to Bristol's available in the iTree Eco model. This figure may be amended.

Net Value: Calculated by adding the totals for the two figures described below.

Carbon Storage: As trees grow they accumulate carbon in their woody tissues, reducing the amount of CO2 (a greenhouse gas) in the atmosphere. The value of carbon dioxide storage is calculated based on the UK Government figure of £65 per tonne of CO2 (2018). 1 tonne CO2 is equivalent to 0.27 tonne of carbon. (1 tonne= 1 metric ton.)

Replacement Cost: the cost of having to replace a tree with a similar tree. Base costs and species values are derived from The Royal Institute of Chartered Surveyors and Barchams and Hillers catalogues.

Figures based on 2018 i-Tree Eco sample assessment.
Mean data, rounded, and 95% confidence limits at 10% standard error.