

Bristol City Council

Tree Planting Report 2022-23



During the winter of 2022 – 2023, Bristol City Council planted **14,515 trees** via our One Tree Per Child (OTPC) and TreeBristol tree planting programmes. In the same period the Council **felled 438 trees**. The net projected added tree canopy is **31.9 hectares** (39.4 hectares added, 7.5 hectares lost).

One Tree Per Child began in 2015 with the aim of planting one tree for every primary school aged child in the city. We have now planted¹ 98,890 trees and continue to plant at least 6,000 trees per year - one for each child starting school. OTPC teaches children about the value of trees and gives every child the opportunity to 'plant a tree and see it grow'.

TreeBristol began in 2005 to plant more standard sized trees in streets, parks and green spaces across Bristol, and now includes our tree sponsorship programme.

Our tree planting programmes are funded through a variety of sources, including private and corporate sponsorship, planning obligations, grants, and direct support from organisations.

We are very grateful for the many people who have given their time to plant trees and help care for them.

¹ includes trees gifted and planted by others.

One Tree Per Child Bristol 2022-23

This section describes the trees planted by OTPC, including our volunteer and education programmes.

OTPC planted:

8,790 trees in total (4.3 hectares projected tree canopy)¹.

12 woodlands in parks and primary schools (2.7 hectares, 5,832 trees).

8 community orchards (304 'heritage' fruit trees).

4 hedgerows (564 metres, 2,254 trees).

1 'Tiny Forest' (400 trees).

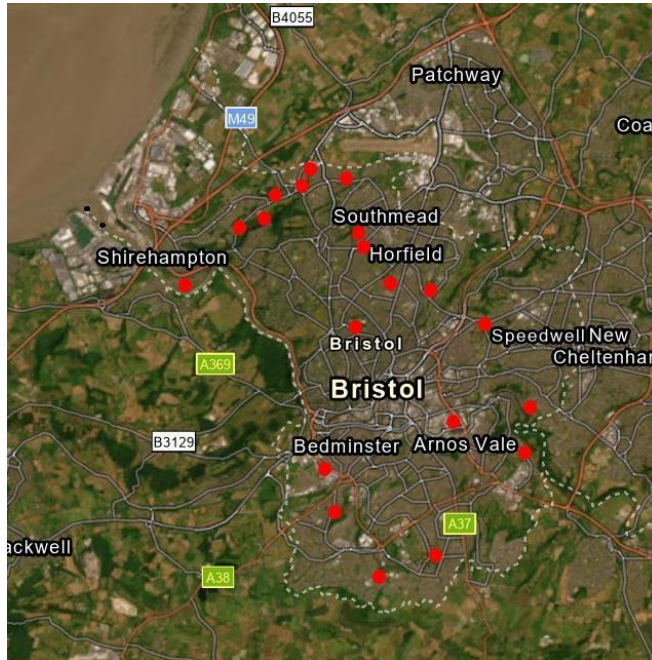
4,700 fruit trees gifted to school children and community groups.

1,635 trees replaced due to drought or vandalism (not included in final tree planting total).

OTPC typically plants smaller trees called 'whips', which are easier to plant.

¹ 8,790 total includes 5,832 woodland trees, 304 fruit trees, 2,254 hedgerow trees and 400 Tiny Forest trees.

2022-23 OTPC planting sites:



OTPC examples tree planting projects:

Hedgerow planted at Blaise Castle Estate



Orchard planted at Doncaster Road Park



Woodland planted at Nibley Road Open Space

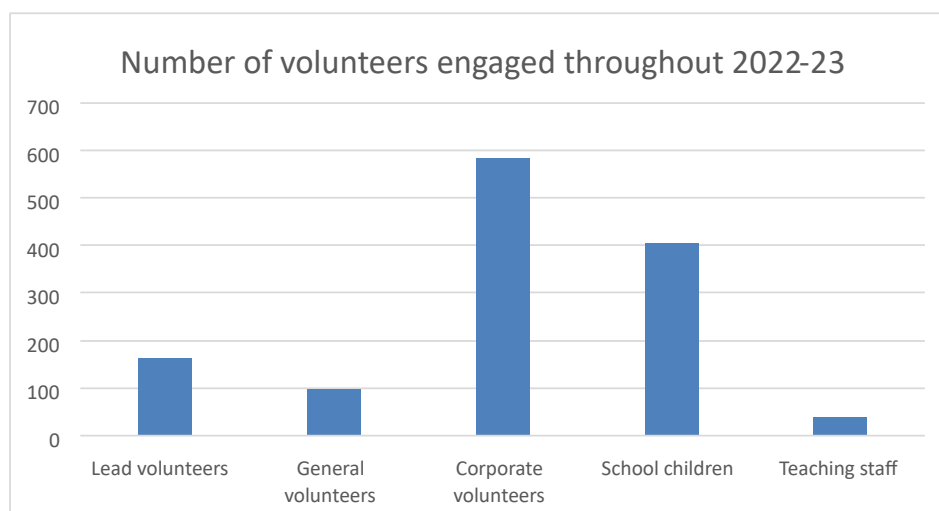
Woodland planted at Eastville Park



OTPC Volunteer Programme

From April 2022 to the end of March 2023, a total of 79 volunteer sessions were held, involving 1,290 volunteers across 42 tree planting days and 37 tree maintenance days – where volunteers return to look after trees planted in previous years.

During the year, OTPC began working with [Your Park Bristol and Bath](#) to develop corporate volunteer opportunities, providing an enhanced volunteering opportunity to business organisations. Corporate volunteers were involved in 32 of our 42 planting projects with 25 businesses taking part.



We would like to say a big thank you to those volunteers who came out and helped OTPC during the 2022-23 season, especially our Lead Volunteers who come on a weekly basis in all weathers and provide such important support, not only to the project but to the staff as well.

We are grateful to the support from the following organisations:

Bristol Tree Forum, the Forest of Avon Trust, NHS Sustainable Forest, DEFRA, Woodland Trust, Trees for Cities, Colas, Earthwatch and Your Park.

OTPC Education Programme

Our OTPC education programme supported over 500 primary school aged children from 6 primary schools to plant and care for tree in their local community and two schools - Henleaze Junior School and Fairfield High School - planted trees in their grounds.

School	Ward	Planting Type	Number of Trees
Henleaze Junior School	Westbury-on-Trym & Henleaze	Hedgerow and Forest School	257
Fairfield High School	Lockleaze	Specimen tree planting using Trees for Climate Funding	24

Over the year, assemblies and tree education workshops were given in 15 schools.

In addition to planting sessions and assemblies 3,341 fruit trees were gifted to primary and secondary school aged children across Bristol, and 1,359 fruit trees given to community groups and members of the public.

OTPC Fundraising

We are grateful for the financial support from the following organisations, grants and private donors:

Sponsor / grant fund	Amount £
Trees for Climate	£51,615
The Woodland Trust	£610
Network Rail 'Achieving No Net Loss'	£4,077
Colas	£50,000
Total	£106,302

In addition, we are grateful for the donations of trees and materials from the Bristol Tree Forum, TCV, Earthwatch and the Centre for Sustainable Healthcare.

TreeBristol 2022-23

During 2022-23 our TreeBristol programme **planted 1,136 standard sized trees** across most electoral wards, including replacing 111 trees from previous years. See Table below.

TreeBristol plants larger (standard) sized trees in streets and parks across the city. These larger trees have an immediate impact and are robust enough to survive in spaces like streets. Trees may be planted as a replacement for a lost tree or in new locations.

In 2022 we started a new collaboration with [Trees for Streets](#), inviting residents and business to support tree planting through sponsorship. We charge £295 to purchase, plant, protect and water each tree over 2-years. We are delighted to report that **167 trees** were sponsored and planted in streets and parks across the city. Thank you to everyone who made this commitment and provided funds.

TreeBristol example tree planting

Hartcliffe & Withywood	0	1	113	0	23	0	0	0	0	2	138
Henbury and Brentry	1	0	19	0	0	0	0	0	0	18	38
Hengrove and Whitchurch Park	0	1	71	0	0	0	0	0	0	5	77
Hillfields	0	0	55	0	0	0	0	0	0	1	56
Horfield	0	17	88	4	0	0	0	0	0	2	111
Hotwells & Harbourside	6	0	0	0	0	0	0	0	0	1	7
Knowle	3	4	0	0	2	0	0	0	0	3	12
Lawrence Hill	2	24	0	0	0	0	0	0	0	6	32
Lockleaze	0	8	40	0	0	0	0	0	0	8	56
Redland	8	0	0	0	0	0	0	0	0	4	12
Southmead	1	0	63	0	0	0	0	0	0	5	69
Southville	0	0	0	0	0	0	0	0	0	0	0
St George Central	0	0	11	0	0	0	0	0	0	0	11
St George Troopers Hill	0	0	0	0	0	0	0	0	0	0	0
St George West	10	0	0	0	0	0	0	0	0	3	13
Stockwood	0	1	0	0	0	0	0	2	0	5	8
Stoke Bishop	36	11	0	0	0	19	0	0	0	1	67
W-o-T & Henleaze	18	5	0	4	0	11	0	0	0	0	38
Windmill Hill	2	1	5	0	0	0	0	0	9	1	18
North Somerset (Ashton Court)	7	0	0	0	0	0	0	0	0	1	8
Other	18										18
Total	167	102	672	8	33	30	4	3	9	108	1,136

Trees funded through: CiL – Community Infrastructure Levy; TfC – Trees for Climate grant; HS – BCC Highways Scheme; BG – Bedminster Green Development; BT – British Telecom sponsored; EA – Environment Agency Flood Mitigation; IC – Insurance Claim; WW – Wessex Water Funded; RT – Replacement Tree

TreeBristol Funding

TreeBristol is grateful for the financial support from the following organisations, grants and private sponsors.

Funding source	Number of trees planted	Amount £
Private and corporate sponsorship	167	£49,265
Section 106 / CIL (developer contribution)	102	£105,973
Trees for Climate fund (Forest of Avon Trust - grant)	672	£196,947
BCC Highways	8	£5,650
Bedminster Green Development	33	£9,735
Environment Agency	4	£3,061
British Telecom	30	£885
Wessex Water	9	£2,655
TOTAL	1,025¹	£373,636

¹ 111 replacement trees were planted using reserve funding (108) and insurance (3).

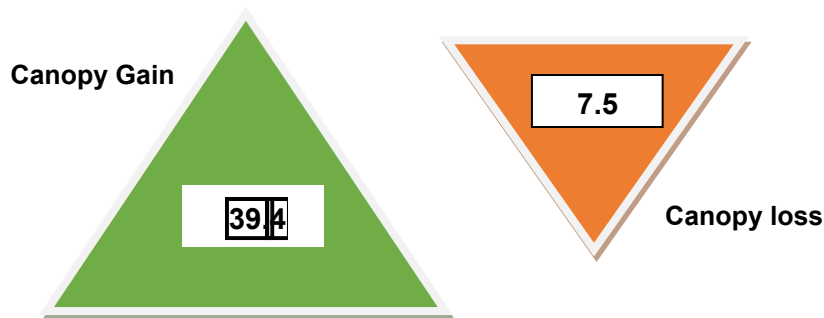
Our environmental commitments

We source most of our trees from UK tree nurseries (small stock fruit trees were purchased from EU suppliers). We use biodegradable tree guards, biodegradable mulch mats and biodegradable tree planting pegs. We use tree watering bags for larger trees which store water and deliver this more efficiently to the tree. Our tree stakes are Forest Stewardship Council certified. Trees are managed through Blaise Plant Nursery where electricity is generated by solar, water is provided by a borehole, on-site vehicles are electric powered, and no peat is used.

Tree Canopy (addition and loss)

Tree canopy contribution data included in this report is a projection based on the assumed size of trees when mature – see method below. Tree canopy loss is based on species felled by projected maturity size.

2022-23 projected tree canopy contribution (OTPC and TreeBristol programmes)



During 2022-23, Bristol City Council planted 14,608 trees, projected to add **39.4 hectares** of tree canopy.

During the 2022-23, Bristol City Council felled 438 trees, most for health and safety reasons, resulting in the loss of **7.5 hectares** canopy.

The net projected canopy added is **31.9 hectares**.

Tree Canopy Projection Method

Tree canopy has been defined as the area occupied by a tree crown taking a 'birds-eye view'.

Trees planted across OTPC and Tree Bristol fall into three main categories: woodland, hedgerow and individual or 'specimen' trees.

For woodland and hedgerows, it is assumed that their overall canopy will be the same size as the boundary of the area planted. For example, if 2,500 trees are planted 2 x 2 metre spacing, the total area is 1 hectare (1 ha = 10,000 m²)

When planting individual trees, we need a different approach to estimate 'canopy contribution', as each tree has the potential to spread and grow. For such trees, canopy can be estimated by

assuming their crown diameter when mature. As data to project tree canopy is limited, an estimated canopy diameter for a range of species was taken using information from the Royal Horticultural Society. The figure for canopy diameter at maturity is derived from data for the potential spread of each species. The age at which the tree will reach this size differs by species, but generally ranges from 50 to 100 years.

Each species was categorised from 'very small' to 'very large', and the area was calculated using the midpoint of the canopy diameter in each range. The resulting area (see table below) was multiplied by the number of individual trees planted allocated to the projected size category.

Classification of tree species according to their canopy diameter at maturity.

Projected Tree Size	Projected Crown Diameter	Projected Tree Canopy Area (m ²)
Very small	<5m	9.6
Small	≥5<10m	44.2
Medium	≥10<15m	122.7
Large	≥15<20m	240.5
Very Large	≥20m	397.6

Trees planted – canopy projection

Projected tree size category	Projected tree canopy m ² by size category	No. trees planted	Projected tree canopy m2
Very small	9.6	4,701	45,129
Small	44.2	358	15,824
Medium	122.7	247	30,307
Large	240.5	329	79,124
Very Large	397.6	487	193,631
Woodland (inc. Tiny Forest) hedgerow		8,486	30,000
			394,015 39.4 hectares

Trees felled – canopy loss

Projected tree size category	Projected tree canopy m ² by size category	No. trees felled	Projected tree canopy m2
Very Small	9.6	0	0
Small	44.2	69	3049.8
Medium	122.7	202	24785.4
Large	240.5	122	29341
Very Large	397.6	45	17892
		438	75068.2
			7.5 hectares

In 2022-23 the council felled 438 trees. The loss in canopy has been calculated at around 7.5ha. This data is subject to errors in that some trees felled by the council may not be recorded in our database, and crown diameter data (used to calculate canopy loss) is older data that was obtained by estimation or is missing - requiring extrapolation. To calculate canopy loss in a similar way to canopy projections, the felled trees were allocated to a 'tree size' category – giving a sum per category that was multiplied by the canopy area for that category. Refinements in data capture will be addressed in future reports.

Comments

This analysis demonstrates the stark difference between planting woodlands and hedgerows compared with planting individual trees where the goal is to maximise tree canopy. Although the numbers of trees in a hedge or wood may be high, the overall canopy area is limited to the planting area.

Given that the canopy projection for specimen trees represents potential size in ideal conditions and does not factor in the failure of any of these trees it is likely to be an over-estimate, as such this projected data is an indication of canopy added – to be confirmed by ongoing monitoring.

This report does not record the percentage change in tree canopy from growth within the population of trees managed by the council. It is expected that this change will be picked up in periodic monitoring in the change in tree canopy (from new planting, growth of existing trees and woodland due to losses).