

Bristol City Council Tree Planting Report 2021-22



Over the winter 2021 – 2022, Bristol City Council **planted 9,980** trees via our One Tree Per Child (OTPC) and TreeBristol tree planting programmes. In the same period the Council **felled 305 trees**. The projected net **tree canopy added is 20.7 hectares** (22.7 hectares added, 2.0 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 planted over 80,000 trees and continue to plant at least 6,000 trees per year - one for each child starting school. All trees are planted and cared for by our fantastic volunteers. OTPC also teaches children about the value of trees and gives every child the chance to plant a tree and see it grow.

TreeBristol began in 2005 as a programme to plant more standard sized trees in streets, parks and green spaces across Bristol.

Across all our tree planting programmes we plant trees from a range of sources including private and corporate sponsorship, planning obligations, grants and direct support from organisations.

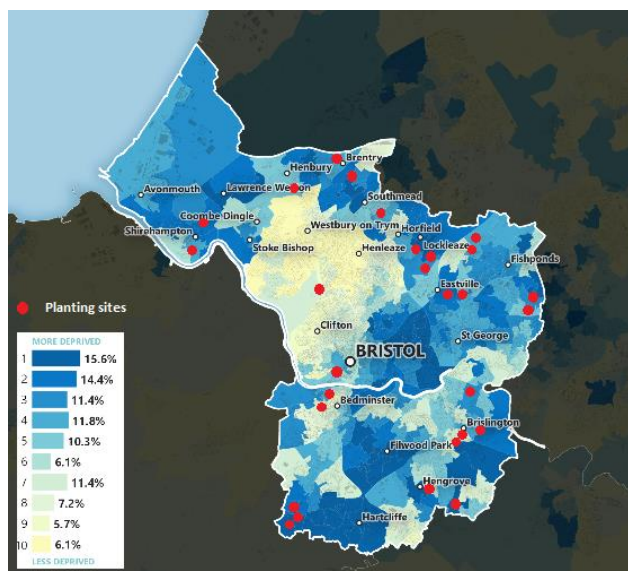
One Tree Per Child Bristol 2021-22

This section highlights the trees planted by OTPC and our volunteer and education programmes.

OTPC 2021-22 tree planting in numbers:

- 5.87 hectares of projected canopy cover when mature
- 3.04 hectares of new woodland
- 9,185 trees planted
- 13 new woodlands in public parks and primary schools
- 7 new community orchards
- 1 maze totalling 166 trees within a primary school – a first for OTPC
- 6,024 woodland trees
- 487 fruit trees planted in total
- 176 heritage fruit trees planted
- 236 fruit trees planted under Queen's Green Canopy initiative
- 2,606 hedgerow trees
- 12 specimen trees
- 58 specimen trees within a wood pasture habitat

The map below shows OTPC planting sites matched to priority planting in areas of higher deprivation.



From December 2021 to March 2022, OTPC planted trees in 28 sites across Bristol, including 13 new woodlands, 7 community orchards and one new maze within a primary school, and 72 school sites received fruit trees under the Queen's Green Canopy initiative in celebration of the Queen's Platinum Jubilee.

Examples of our tree planting sites:



Orchard tree planting at Elderberry Walk Open Space



Woodland planting at Hillfields Park



Woodland planting at Lockleaze Open Space



Hedgerow planting at Littlecross House



Orchard planting at Hillfields Park



Wood pasture trees at Elderberry Walk

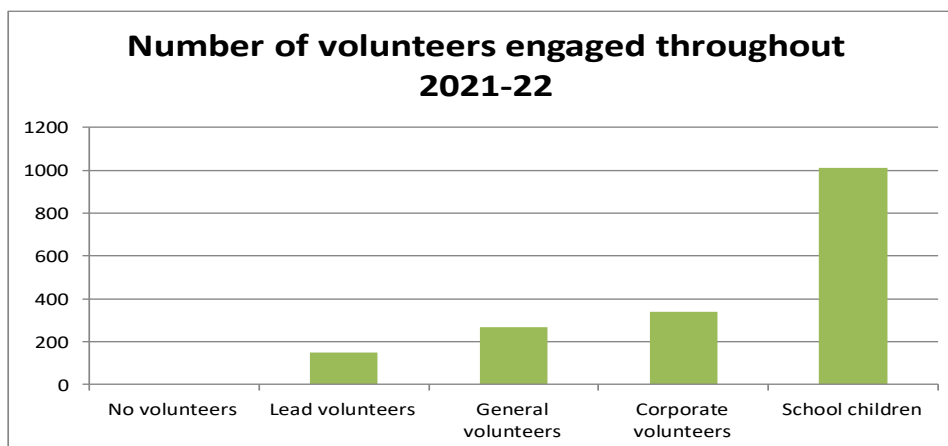
OTPC planted trees in woodland, hedgerow, wood pasture, orchards and as specimen trees. Most trees were planted as whips (small stock trees). We continued to use all biodegradable planting materials such as guards and mulch mats.

OTPC Volunteer Programme

The 2021-22 season saw a return to a more standard volunteer programme following the global coronavirus pandemic. Volunteers were able to join the weekly volunteer sessions with limited restrictions and corporate teams returned once again to volunteer their time. Corporate teams were involved in 26 of our 28 planting projects with 25 companies taking part.

School groups were once again able to join our tree planting sessions within their school grounds and in public open spaces. Fourteen schools attended tree planting in public open spaces and OTPC planted trees in eight school sites in the 2021-22 season.

Overall, from the end of April 2021 to the beginning of April 2022, a total of 68 volunteer sessions were held including 39 planting days and 29 maintenance days where volunteers return to look after trees planted in previous years.



We would like to say a big thank you to those volunteers who came out and helped OTPC during the 2021-22 season, especially our lead volunteers who come on a weekly basis and provide important support not only to the project but to the staff as well.

We are grateful to the support from the following organisations:

Bristol Energy, Bristol Tree Forum, the Forest of Avon Trust, Goram Homes, NHS Sustainable Forest, DEFRA, Burges Salmon, Redcliffe and Temple BID, Bristol Waste, Woodland Trust, Trees for Cities, Emily Magpie.

OTPC Education Programme

This year OTPC planted schemes in eight schools in Bristol despite difficulties in accessing education settings due to schools recovering from the pandemic and having secure access arrangements in place.

School	Ward	Planting Type	Number of Trees
Brentry Primary School	Henbury & Brentry	Woodland, Copse and Forest School	270
Four Acres Academy	Hartcliffe & Witherwood	Hedgerow, Copse, Maze and Specimen	352
Horfield CEVC Primary	Horfield	Mini-orchard	3
Little Mead Primary Academy	Southmead	Mini-orchard	3
May Park Primary	Eastville	Hedgerow and Forest School	300
Oasis New Oak Academy	Hengrove & Whitchurch Park	Hedgerow, Orchard and Specimen	877
Redland Green School	Redland	Woodland and Orchard	301
Woodlands Academy	Stockwood	Woodland, Forest School and Specimen	233

Assemblies and tree education workshops were given in 21 schools over the year and 14 schools came to help with planting and maintenance off site.

Goram Homes funded 70 'mini-orchards' with most planted in primary schools but also secondary schools and a handful of early years settings.

OTPC Fundraising

One Tree Per Child is grateful for the financial support from the following organisations, grants and private donors:

Sponsor / grant fund	Amount £
Trees for Climate	£39,632
Bristol Waste	£470
The Woodland Trust	£610
Forest of Avon Trust	£504
Trees for Cities	£150
Goram Homes	£4,024
Private donor	£300
Total	£45,690

In addition to the financial donations, we received trees and materials from the Bristol Tree Forum and Centre for Sustainable Healthcare for trees planted at Lodge Hill Open Space and Dorian Road Playing Fields.

TreeBristol 2021-22

During 2021-22, TreeBristol planted **795** standard sized trees and 97 in-year losses in most electoral wards across the city (see table on next page).

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. The charge for a replacement tree is £305 to reflect the cost to purchase, plant and establish these larger trees. The charge for a new tree is £765 - this includes an additional sum towards maintenance costs over the life of the tree. Trees can be sponsored on Bristol City Council land @ [Trees for Streets](#).

TreeBristol typical tree planting

Parkland tree



Street tree



TreeBristol tree planting:

Electoral Ward	Private Sponsor	Section 106 / CIL	TfC	Business QGC	Parks residual fund	Env. Agency	Sustrans	Total planted	Total felled
Number of trees planted									
Ashley	4	5	0	0	0	0	0	9	1
Avonmouth & LW	5	127	76	8	0	0	0	216	16
Bedminster	1	1	0	0	26	0	0	28	5
Bish & Ash Dn	0	0	0	0	0	0	0	0	0
Bishopsworth	5	0	0	0	0	0	0	5	6
Brislington East	1	1	0	0	0	2	0	4	6
Brislington West	1	8	24	0	0	29	0	62	2
Central	5	35	0	1	0	0	0	41	4
Clifton Down	1	0	0	0	0	0	0	1	1
Clifton	3	5	0	0	0	0	0	8	2
Cotham	0	0	0	0	0	0	0	0	0
Easton	0	1	0	0	0	0	0	1	2
Eastville	1	9	0	3	0	0	3	16	9
Filwood	0	4	0	10	0	0	0	14	7
Frome Vale	2	4	0	1	0	0	0	7	7
Hart & With	1	3	54	16	0	0	0	74	13
Hen & Brent	2	0	32	7	0	0	0	41	6
Hen & WP	0	0	0	5	0	0	0	5	21
Hillfields	0	9	0	0	0	0	0	9	4
Horfield	6	1	0	0	0	0	0	7	13
Hot & Harb	2	5	0	0	0	0	0	7	2
Knowle	5	20	13	0	0	0	0	38	3
Lawrence Hill	3	18	22	7	0	0	0	50	7
Lockleaze	1	12	0	1	0	0	0	14	3
Redland	13	7	0	0	0	0	0	20	6
Southmead	2	0	0	9	0	0	0	11	12
Southville	3	5	0	0	0	0	0	8	6
St George C	1	1	0	1	0	0	0	3	2
St George TH	2	0	16	0	0	0	0	18	6
St George W	4	2	0	0	0	0	0	6	1
Stockwood	0	1	30	1	0	0	0	32	3
Stoke Bishop	7	1	0	0	0	0	0	8	23
W-o-T & Hen	12	0	0	0	0	0	0	12	11
Windmill Hill	8	7	0	0	0	0	0	15	0
North Somerset (Ashton Court)	5	0	0	0	0	0	0	5	0
Parks and Green Spaces – no code added	0	0	0	0	0	0	0	0	14
No site code allocated	0	0	0	0	0	0	0	0	81
Total	106	292	267	70	26	31	3	795	305

CiL – Community Infrastructure Levy, TfC – Trees for Climate grant, QGC – Queen’s Green Canopy business contribution via Quartet.

The previous table also details that Bristol City Council felled 305 trees during the period 1 April 2021 to 31 March 2022. The main reasons for tree felling were storm damage, dead trees standing and diseases such as ash dieback and honey fungus causing tree failure and fallen limbs. Data on the removal of trees is limited to instructions that have gone through our main tree contractor.

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 sponsorship	106	£31,270
Section 106 / CiL (developer contribution)	292	£223,441
Trees for Climate fund (Forest of Avon Trust - grant)	267	£42,407
Queen’s Green Canopy (Quartet - business grant)	70	£20,650
Parks Residual Fund	26	£16,162
Environment Agency	31	£9,145
Sustrans	3	£885
TOTAL	795	£343,960

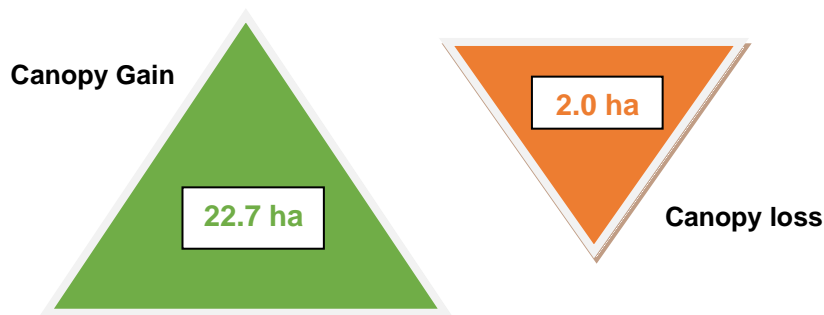
Tree Canopy (addition and loss)

Bristol’s ‘One City Plan’ includes the target to double Bristol’s tree canopy by 2046.

A Bristol Tree Strategy is in preparation and will confirm the baseline tree canopy of the city, set out a plan to double tree canopy and prioritise tree planting in areas of greatest need.

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 data held on size of trees felled.

The projected 2021-22 canopy contribution across both OTPC and Tree Bristol was:



During the 2021-22:

- OTPC and TreeBristol tree planting planted 9,980 trees and contributed **22.7 hectares** of projected canopy added.
- Bristol City Council felled 305 trees resulting in the loss of **2.0 hectares** canopy loss.
- The **Net** projected canopy **20.7 hectares** added.

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 TreeBristol fall into three main categories: woodland, hedgerow and individual 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.

When planting individual trees the canopy is estimated by assuming their crown diameter when mature as each tree has the potential to spread and grow.

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 and the Missouri Botanical Garden. 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 is categorised from 'very small' to 'very large', and the area is calculated using the midpoint of the canopy diameter in each range. This resulting area is 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 by category

Individual trees

Projected tree size category	Projected canopy area m ² by size category	No. trees planted	Projected tree canopy m ²
Very small	9.6	496	4771.3
Small	44.2	101	4464.2
Medium	122.7	264	32,292.1
Large	240.5	252	60,606.0
Very Large	397.6	239	9,5027.0
		1,352	197,262 m²
			19.7 hectares

Woodland and hedgerow

Category	Projected canopy added m ²
Woodland and hedgerow	30,417 m ²
	3.0 hectares

Total projected canopy added (individual trees, woodland and hedgerow)

Category	Projected canopy added (ha)
Individual trees	19.7
Woodland and hedgerow	3.0
	22.7 hectares

Trees felled canopy loss

For the first time we are reporting the number of trees felled by Bristol City Council and giving a figure for canopy loss. Records show that 305 trees were felled over the period 2021-22. The loss in canopy has been calculated at around **2.0 ha**.

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.

Projected tree size category	Projected canopy area m2 by size category	No. trees felled	Projected tree canopy m2
very small	9.6	84	806.4
small	44.2	124	5480.8
medium	122.7	86	10552.2
large	240.5	11	2645.5
very large	397.6	0	0
		305	19484.9 m2
			2.0 hectares

Note: 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.

Comments

This analysis demonstrates the stark difference between planting woodlands and hedgerows compared with planting individual trees if the goal is to maximise canopy cover. Although the numbers of trees in a hedge or wood may be high, the overall canopy area is limited to the planting area. For example, the large hedgerow planted at Port of Bristol Authority contained 850 trees, but the canopy contribution is just 444m², slightly more than the potential canopy cover of one very large specimen tree (see table above).

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).