

Biodiversity @ St Clement's

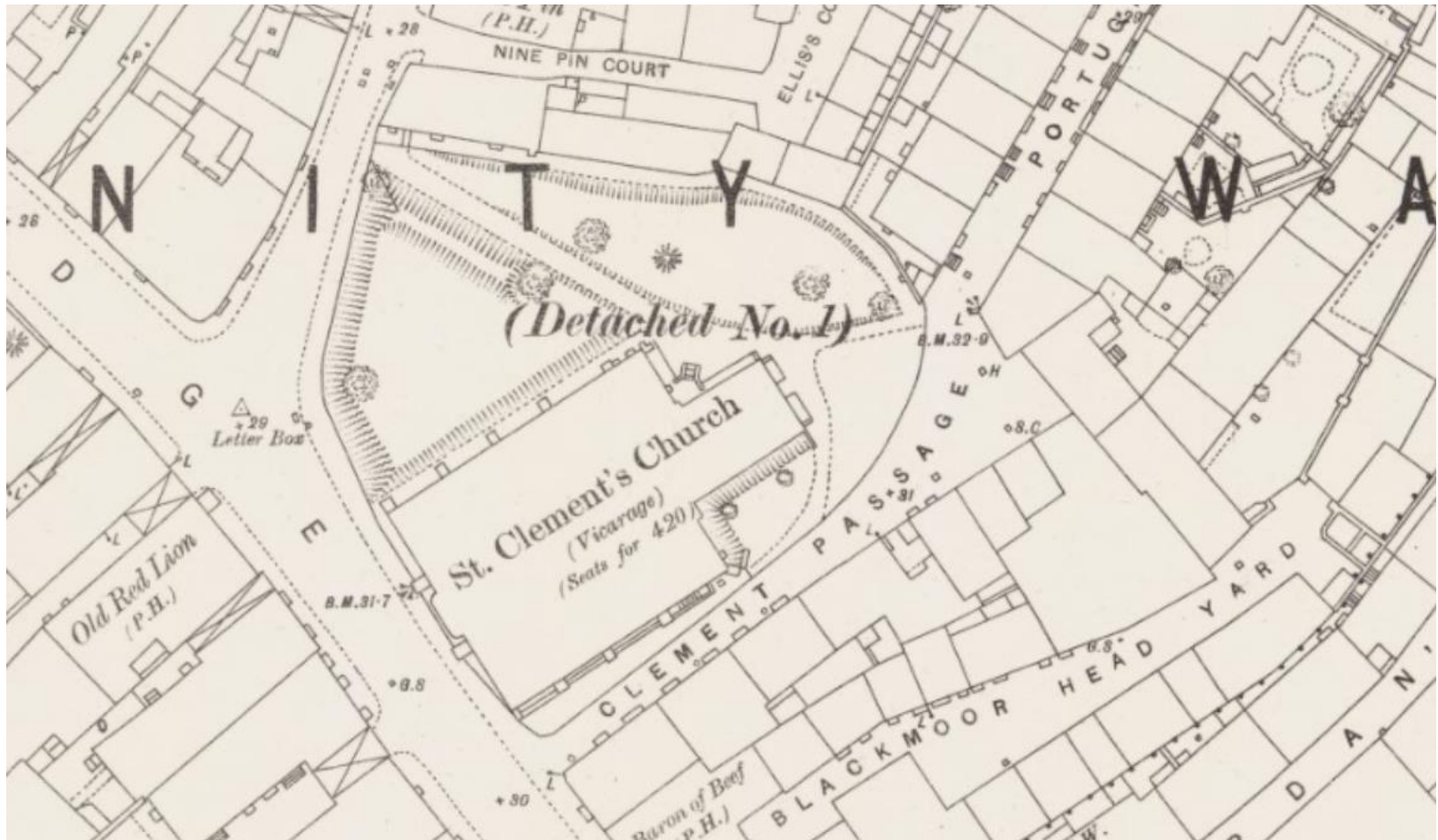
The First Year of a City Centre Churchyard Restoration Project

Dr David Bailey & the CCRP Team

St Clement's A City Centre Churchyard

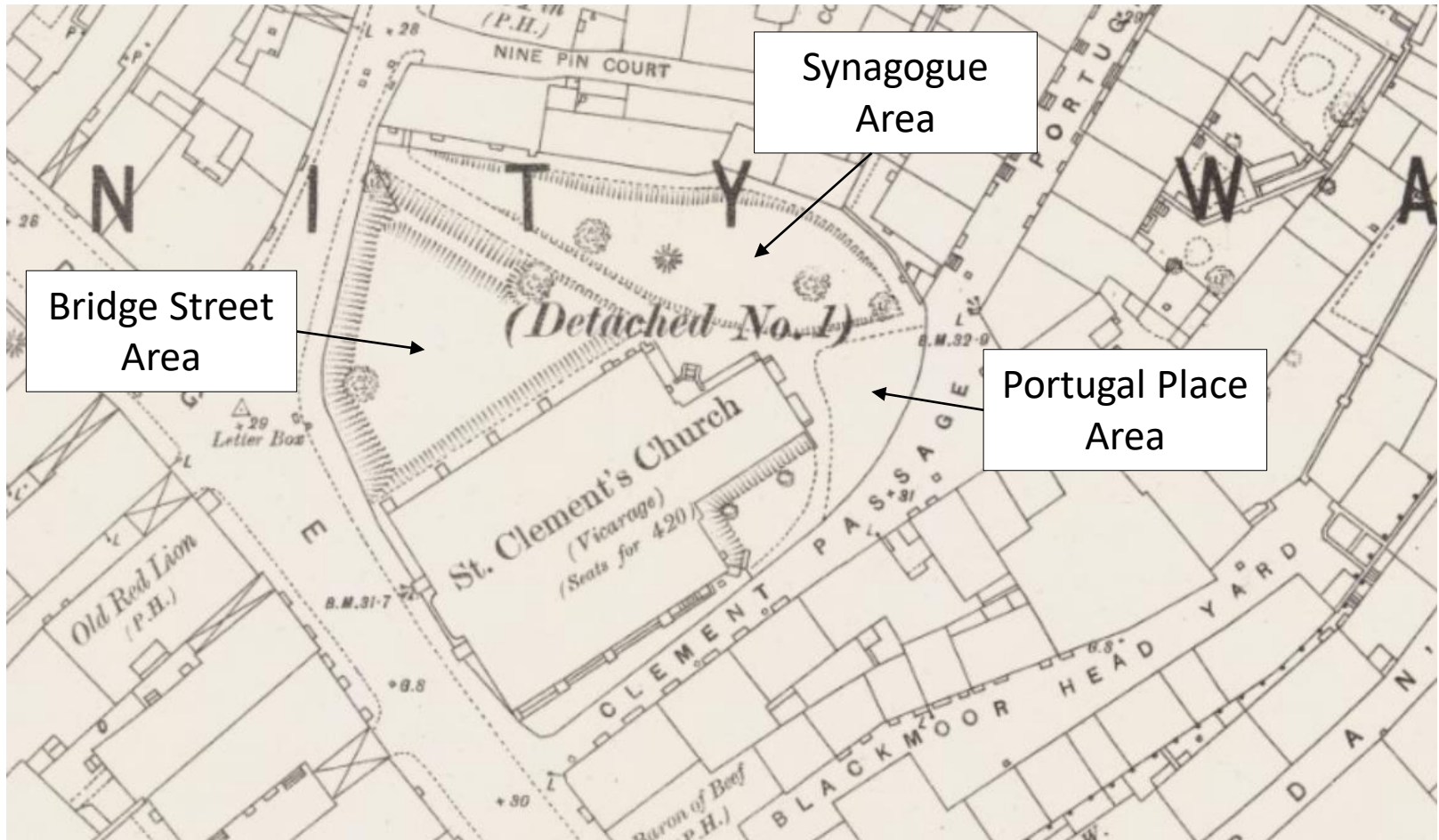


St Clement's Churchyard in 1885



Ordnance Survey map of 1888
(Cambridge, Cambridgeshire XLVII.2.2. Surveyed 1885, published 1888)

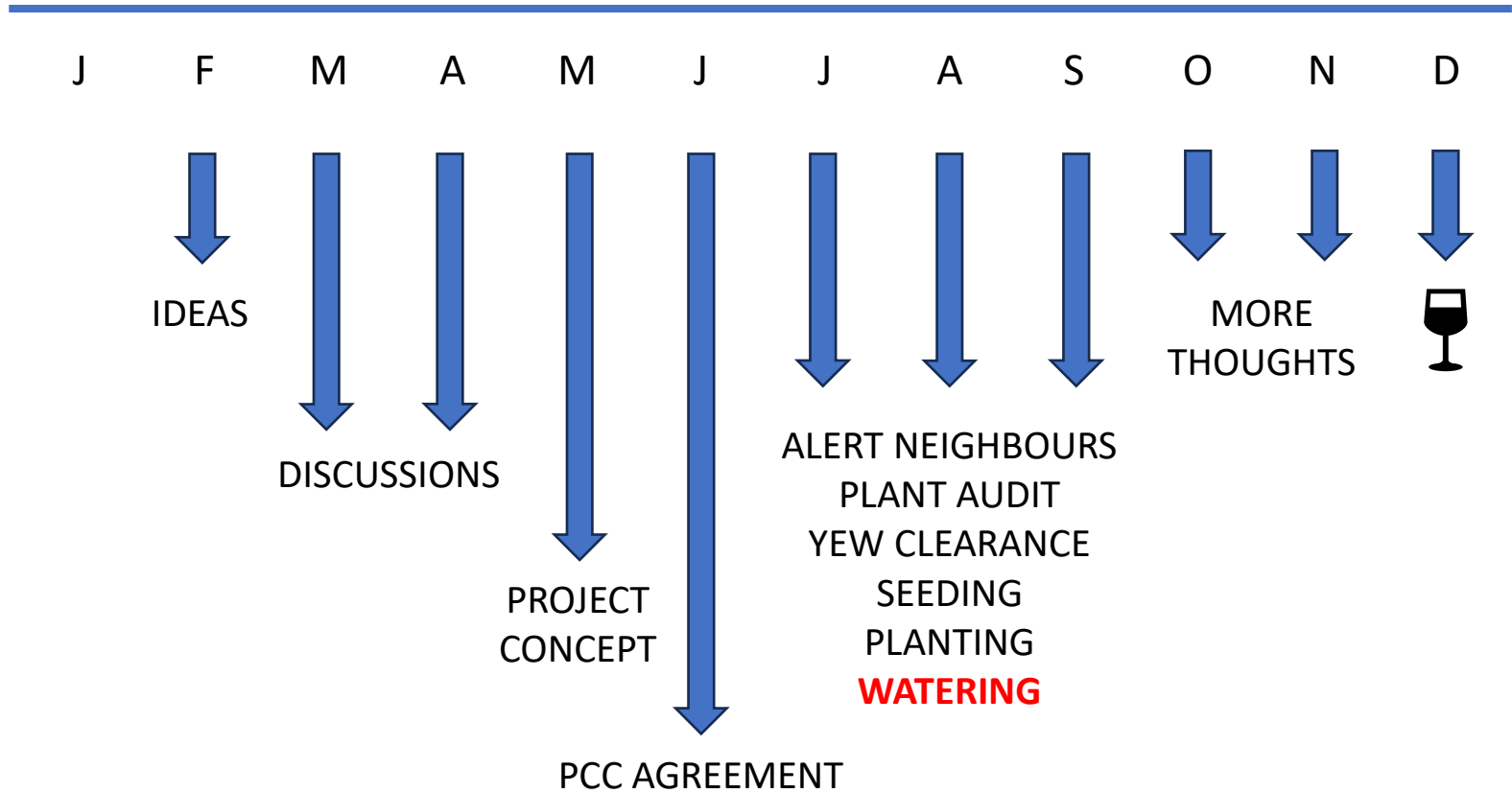
Churchyard Gardens



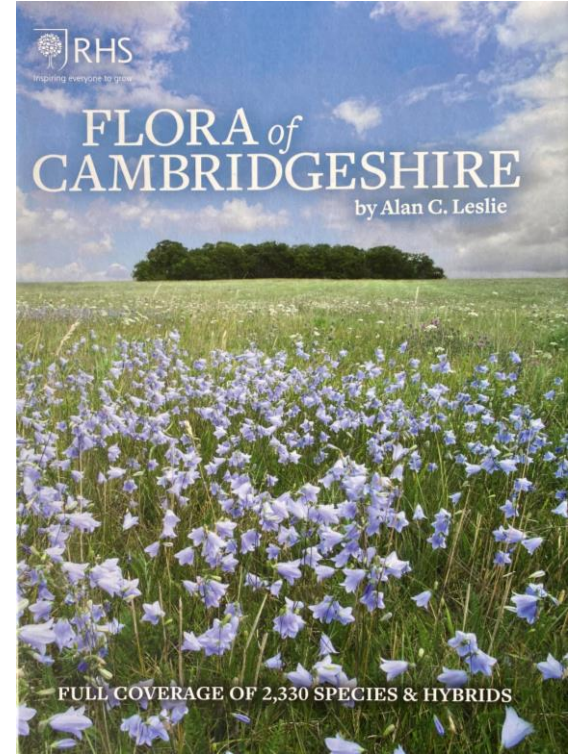
Ordnance Survey map of 1888
(Cambridge, Cambridgeshire XLVII.2.2. Surveyed 1885, published 1888)

2022

2022 Timeline



Resources



BSBI Botanical Audit – 134 species in all

<i>Acer pseudoplatanus</i>	Sycamore	<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	<i>Prunella vulgaris</i>	Selfheal
<i>Aegopodium podagraria</i>	Ground-elder	<i>Geranium pusillum</i>	Small-flowered Crane's-bill	<i>Prunus dulcis</i>	Almond
<i>Aethusa cynapium</i>	Fool's Parsley	<i>Geranium robertianum</i>	Herb-Robert	<i>Pseudofumaria lutea</i>	Yellow Corydalis
<i>Agrostis stolonifera</i>	Creeping Bent	<i>Geum urbanum</i>	Wood Avens	<i>Ranunculus bulbosus</i>	Bulbous Buttercup
<i>Alcea rosea</i>	Hollyhock	<i>Glechoma hederacea</i>	Ground-ivy	<i>Ranunculus repens</i>	Creeping Buttercup
<i>Allium paradoxum</i>	Few-flowered Garlic	<i>Harmonia axyridis f. succinea</i>	Harlequin Ladybird	<i>Rhytidiadelphus squarrosus</i>	Springy Turf-moss
<i>Allium triquetrum</i>	Three-cornered Garlic	<i>Hedera helix</i>	Common Ivy	<i>Ribes nigrum</i>	Black Currant
<i>Alopecurus myosuroides</i>	Black-grass	<i>Helleborus foetidus</i>	Stinking Hellebore	<i>Rosa canina</i> agg.	Dog-rose
<i>Anagallis arvensis</i>	Scarlet Pimpernel	<i>Helminthotheca echioides</i>	Bristly Oxtongue	<i>Rubus fruticosus</i> agg.	Bramble
<i>Anisantha sterilis</i>	Barren Brome	<i>Holcus lanatus</i>	Yorkshire-fog	<i>Rumex acetosa</i>	Common Sorrel
<i>Anthriscus sylvestris</i>	Cow Parsley	<i>Hyacinthoides x massartiana</i>	Hybrid Bluebell (H. non-scripta x hispanica)	<i>Rumex obtusifolius</i>	Broad-leaved Dock
<i>Arrhenatherum elatius</i>	False Oat-Grass	<i>Hyacinthus orientalis</i>	Hyacinth	<i>Rumex sanguineus</i>	Wood Dock
<i>Arum italicum</i>	Italian Lords-and-Ladies	<i>Hypericum androsaemum</i>	Tutsan	<i>Sagina procumbens</i>	Procumbent Pearlwort
<i>Asplenium scolopendrium</i>	Hart's-tongue	<i>Hypochaeris radicata</i>	Cat's-ear	<i>Salix cinerea</i> subsp. <i>Oleifolia</i>	Rusty Willow
<i>Ballota nigra</i>	Black Horehound	<i>Ilex aquifolium</i>	Holly	<i>Salix x reichardtii</i>	S. caprea x cinerea
<i>Bellis perennis</i>	Daisy	<i>Iris foetidissima</i>	Stinking Iris	<i>Sambucus nigra</i>	Elder
<i>Brachythecium rutabulum</i>	Rough-stalked Feather-moss	<i>Lamium album</i>	White Dead-nettle	<i>Schedonorus arundinaceus</i>	Tall Fescue
<i>Bromus hordeaceus</i>	Soft-brome	<i>Lamium hybridum</i>	Cut-leaved Dead-nettle	<i>Scorzoneroides autumnalis</i>	Autumn Hawkbit
<i>Buddleja davidii</i>	Butterfly-bush	<i>Lamium maculatum</i>	Spotted Dead-nettle	<i>Senecio jacobaea</i>	Common Ragwort
<i>Buxus sempervirens</i>	Box	<i>Lamium purpureum</i>	Red Dead-nettle	<i>Senecio vulgaris</i>	Groundsel
<i>Capsella bursa-pastoris</i>	Shepherd's-purse	<i>Lapsana communis</i>	Nipplewort	<i>Sherardia arvensis</i>	Field Madder
<i>Cardamine hirsute</i>	Hairy Bitter-cress	<i>Lolium perenne</i>	Perennial Rye-grass	<i>Solanum lycopersicum</i>	Tomato
<i>Carex divulsa</i> subsp. <i>Leersii</i>	Many-leaved Sedge	<i>Lonicera japonica</i>	Japanese Honeysuckle	<i>Sonchus asper</i>	Prickly Sow-thistle
<i>Carex pendula</i>	Pendulous Sedge	<i>Lunaria annua</i>	Honesty	<i>Sonchus oleraceus</i>	Smooth Sow-thistle
<i>Centranthus ruber</i>	Red Valerian	<i>Malva neglecta</i>	Dwarf Mallow	<i>Stellaria media</i>	Common Chickweed
<i>Cerastium fontanum</i>	Common Mouse-ear	<i>Malva sylvestris</i>	Common Mallow	<i>Symphoricarpos albus</i>	Snowberry
<i>Cirsium arvense</i>	Creeping Thistle	<i>Marchantia polymorpha</i> subsp. <i>ruderalis</i>	Common Liverwort	<i>Tanacetum parthenium</i>	Feverfew
<i>Cirsium vulgare</i>	Spear Thistle	<i>Meconopsis cambrica</i>	Welsh Poppy	<i>Taraxacum</i> agg.	Dandelion
<i>Convolvulus arvensis</i>	Field Bindweed	<i>Medicago lupulina</i>	Black Medick	<i>Taxus baccata</i>	Yew
<i>Conyza canadensis</i>	Canadian Fleabane	<i>Mercurialis annua</i>	Annual Mercury	<i>Trifolium dubium</i>	Lesser Trefoil
<i>Cymbalaria muralis</i>	Ivy-leaved Toadflax	<i>Mycelis muralis</i>	Wall Lettuce	<i>Trifolium repens</i>	White Clover
<i>Dactylis glomerata</i>	Cock's-foot	<i>Myosotis arvensis</i>	Field Forget-me-not	<i>Tristagma uniflorum</i>	Spring Starflower
<i>Dipsacus fullonum</i>	Wild Teasel	<i>Narcissus</i> agg.	Cultivated Daffodil	<i>Urtica dioica</i>	Common Nettle
<i>Dryopteris filix-mas</i>	Male-fern	<i>Nigella damascene</i>	Love-in-a-mist	<i>Veronica arvensis</i>	Wall Speedwell
<i>Epilobium ciliatum</i>	American Willowherb	<i>Oxalis articulata</i>	Pink-sorrel	<i>Veronica chamaedrys</i>	Germander Speedwell
<i>Epilobium hirsutum</i>	Great Willowherb	<i>Parietaria Judaica</i>	Pellitory-of-the-Wall	<i>Veronica filiformis</i>	Slender Speedwell
<i>Epilobium montanum</i>	Broad-leaved Willowherb	<i>Pentaglottis sempervirens</i>	Green Alkanet	<i>Veronica hederifolia</i> subsp. <i>lucorum</i>	Ivy-leaved Speedwell
<i>Epilobium obscurum</i>	Short-fruited Willowherb	<i>Plantago lanceolata</i>	Ribwort Plantain	<i>Veronica persica</i>	Common Field-speedwell
<i>Epilobium x interjectum</i>	E. montanum x ciliatum	<i>Plantago major</i>	Greater Plantain	<i>Veronica polita</i>	Grey Field-speedwell
<i>Euphorbia helioscopia</i>	Sun Spurge	<i>Poa annua</i>	Annual Meadow-grass	<i>Veronica serpyllifolia</i>	Thyme-leaved Speedwell
<i>Euphorbia peplus</i>	Petty Spurge	<i>Poa trivialis</i>	Rough Meadow-grass	<i>Viburnum opulus</i>	Guelder-rose
<i>Festuca rubra</i> agg.	Red Fescue	<i>Polygonum aviculare</i> agg.	Knotgrass	<i>Vinca major</i>	Greater Periwinkle
<i>Ficaria verna</i>	Lesser Celandine	<i>Potentilla reptans</i>	Creeping Cinquefoil	<i>Vinca minor</i>	Lesser Periwinkle
<i>Fragaria vesca</i>	Wild Strawberry	<i>Primula vulgaris</i>	Primrose	<i>Viola odorata</i> var. <i>odorata</i>	Sweet Violet
<i>Fraxinus excelsior</i>	Ash				
<i>Galium aparine</i>	Cleavers				

Bridge Street Area in 2022

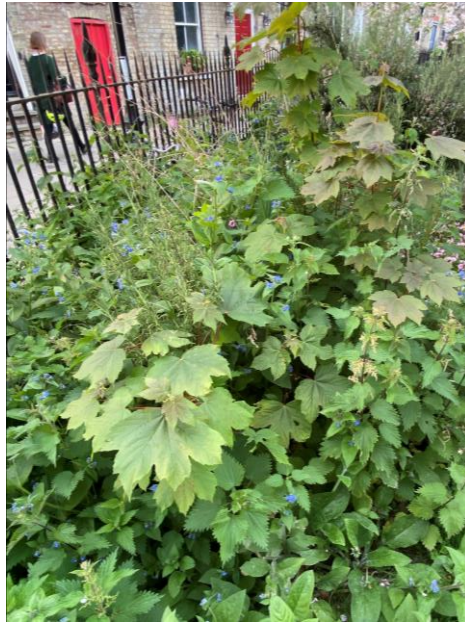


Synagogue Area in 2022



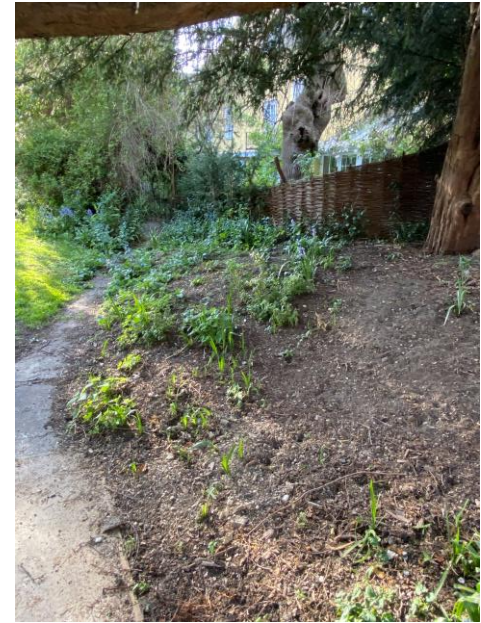
Portugal Place Area in 2022





Origins

May 2022



The City Council helps out



Clearance, Before & After



Ground Preparation



Tree Pruning



3,4 Maple Sycamore / *Acer pseudoplatanus*

8 English Yew / *Taxus baccata*

10 *Prunus x yedoensis* / Yoshino Cherry



18 *Prunus avium* / Wild Cherry

19 *Prunus serrulata* / Shirofugen

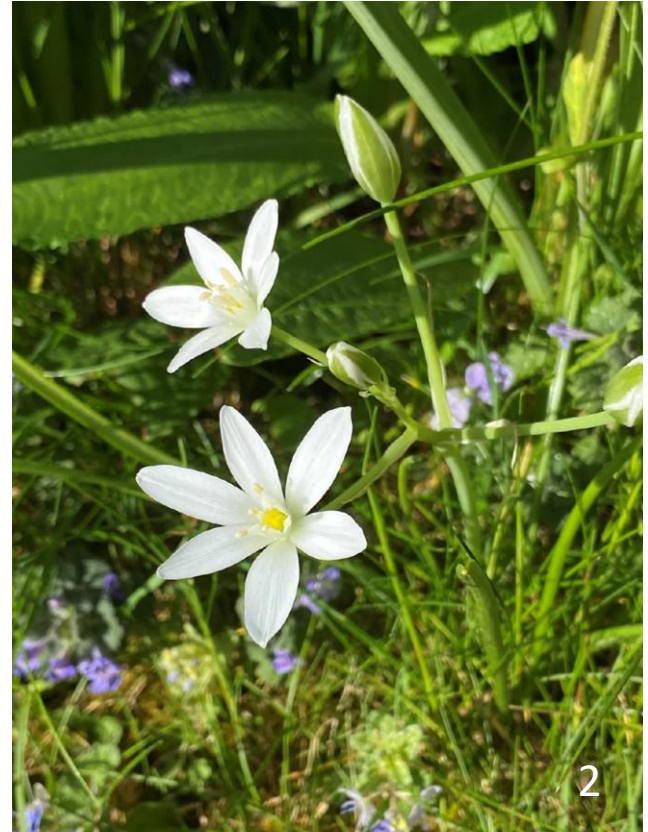
20 Common holly / *Ilex aquifolium*

Key to Photographs

1	Pink-Sorrel	<i>Oxalis articulata</i>
2	Star of Bethlehem	<i>Ornithogalum umbellatum</i>
3	Elderberry	<i>Sambucus nigra</i>
4	Sweet Mock Orange	<i>Philadelphus coronaria</i>
5	St John's Wort, Rose of Sharon	<i>Hypericum calycinum</i>
6	Wild Teasel	<i>Dipsacus fullonum</i>
7	Hawksbeard	<i>Crepis</i>
8	Common Jasmine	<i>Jasminum officinale</i>
9	Yellow Rose	<i>Rosa xanthina</i>
10	Red Dead Nettle	<i>Lamium purpureum</i>
11	Sweet Violet	<i>Viola odorata</i>
12	Peach-leaved Bellflower	<i>Campanula persicifolia</i>
13	Yellow Corydalis	<i>Pseudofumaria lutea</i>
14	White Dead-nettle	<i>Lamium album</i>
15	Ground Ivy	<i>Glechoma hederacea</i>
16	Cow Parsley	<i>Anthriscus sylvestris</i>
17	Green Alkanet	<i>Pentaglottis sempervirens</i>
18	Sedge	<i>Carex</i>
19	Feverfew	<i>Tanacetum parthenium</i>
20	Garden Cosmos	<i>Cosmos bipinnatus</i>
21	Spreading Pellitory	<i>Parietaria judaica</i>
22	Hedge Bedstraw	<i>Galium mollugo</i>
23	Ground Elder	<i>Aegopodium podagraria</i>
24	Greater Periwinkle	<i>Vinca major</i>
25	Stinking Iris	<i>Iris foetidissima</i>
26	Max Chrysanthemum	<i>Leucanthemum maximum</i>
27	Cornflower, Bachelor's Button	<i>Centaurea cyanus</i>
28	Virginia Creeper	<i>Parthenocissus quinquefolia</i>
29	Corn Daisy, Corn Marigold	<i>Glebionis segetum</i>
30	Great Willowherb	<i>Epilobium hirsutum</i>
31	Dwarf Mallow	<i>Malva neglecta</i>
32	Common Mallow	<i>Malva sylvestris</i>
33	Japanese Anemone	<i>Anemone hupehensis</i> var <i>japonica</i>
34	Opium Poppy	<i>Papaver somniferum</i>
35	Nipplewort	<i>Lapsana communis</i>
36	Herb Robert	<i>Geranium robertianum</i>
37	Garden Tulip	<i>Tulipa</i>
38	Common Snowdrop	<i>Galanthus nivalis</i>

39	Snake's Head Fritillary	<i>Fritillaria meleagris</i>
40	Lenten Rose	<i>Helleborus orientalis</i>
41	Winter Aconite	<i>Eranthis hyemalis</i>
42	Wild Cherry	<i>Prunus avium</i>
43	Wood Spurge	<i>Euphorbia amygdaloides</i>
44	Common Self-Heal	<i>Prunella vulgaris</i>
45	Wild Sage, Wild Clary	<i>Salvia verbenaca</i>
46	Cut-leaved Crane's-bill	<i>Geranium dissectum</i>
47	Spear Thistle	<i>Cirsium vulgare</i>
48	Germander Speedwell	<i>Veronica chamaedrys</i>
49	Spanish Bluebell	<i>Hyacinthoides hispanica</i>
50	Sweet Yellow Clover	<i>Melilotus officinalis</i>
51	Annual Honesty	<i>Lunaria annua</i>
52	Wild Carrot, Queen Anne's Lace	<i>Daucus carota</i>
53	Spring Starflower	<i>Ipeion uniflorum</i>
54	Garden Foxglove	<i>Digitalis purpurea</i>
55	Greater Plantain	<i>Plantago major</i>
56	Salad Burnet	<i>Sanguisorba minor</i>
57	Tutsan, Sweet Amber	<i>Hypericum androsaemum</i>
58	Common Yarrow	<i>Achillea millefolium</i>
59	Garlic Mustard	<i>Alliaria petiolata</i>
60	Ribwort Plantain	<i>Plantago lanceolata</i>
61	Love in a Mist	<i>Nigella damascena</i>
62	Purpletop Vervain	<i>Verbena bonariense</i>
63	White Laceflower	<i>Orlaya grandiflora</i>
64	Creeping Cinquefoil	<i>Potentilla reptans</i>
65	Common Ragwort	<i>Senecio jacobaea</i>
66	Willow-leaved Meadowsweet	<i>Spiraea salicifolia</i>
67	Borage	<i>Borago officinalis</i>
68	Corncockle	<i>Agrostemma githago</i>
69	Red Campion, Red Catchfly	<i>Silene dioica</i>
70	White Campion	<i>Silene latifolia</i> subspecies <i>alba</i>
71	Night-flowering Catchfly	<i>Silene noctiflora</i>
72	Fringed Campion	<i>Silene fimbriata</i>
73	Ox-eye Daisy	<i>Leucanthemum vulgare</i>
74	Judas Tree	<i>Cercis siliquastrum</i>
75	Perennial Cornflower	<i>Centaurea montana</i>

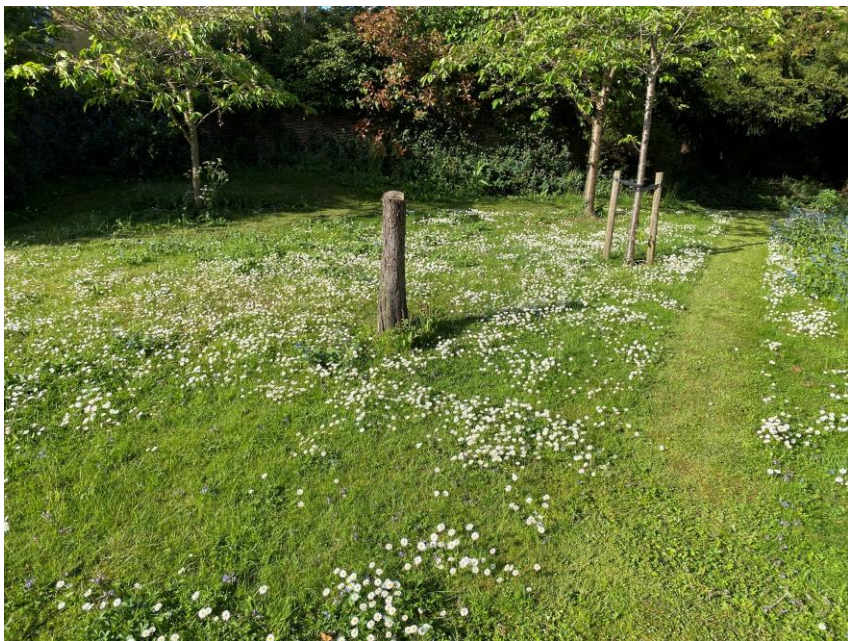
Spring 2022 Bridge Street



2022 Bridge Street



2022 Bridge Street



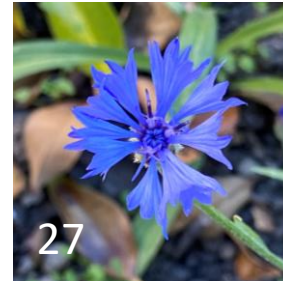
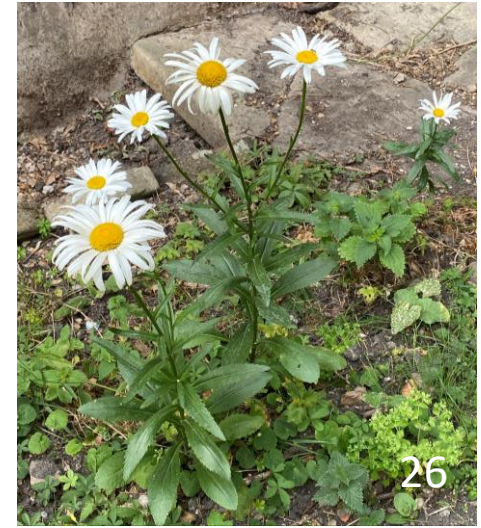
2022 Bridge Street



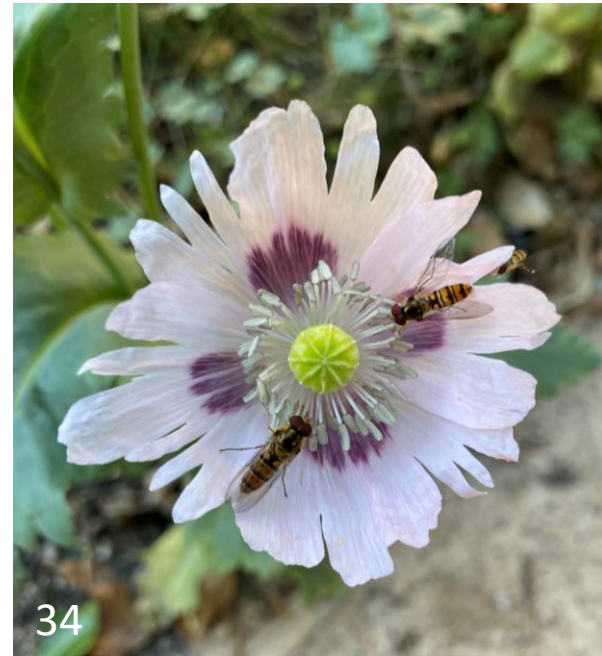
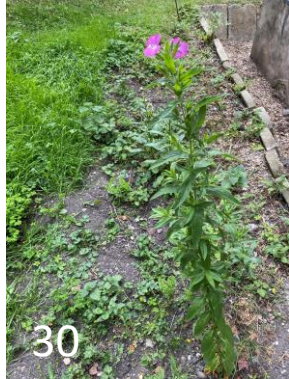
2022 Synagogue Area



2022 Portugal Place



2022 Portugal Place



2022 Portugal Place



35

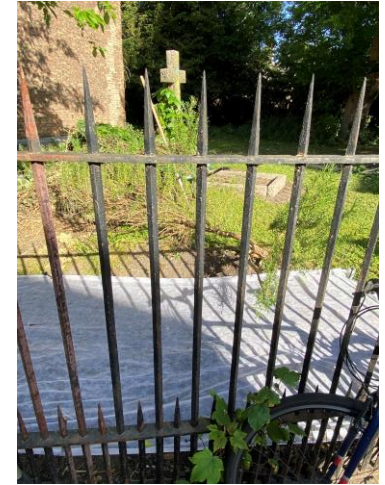


36



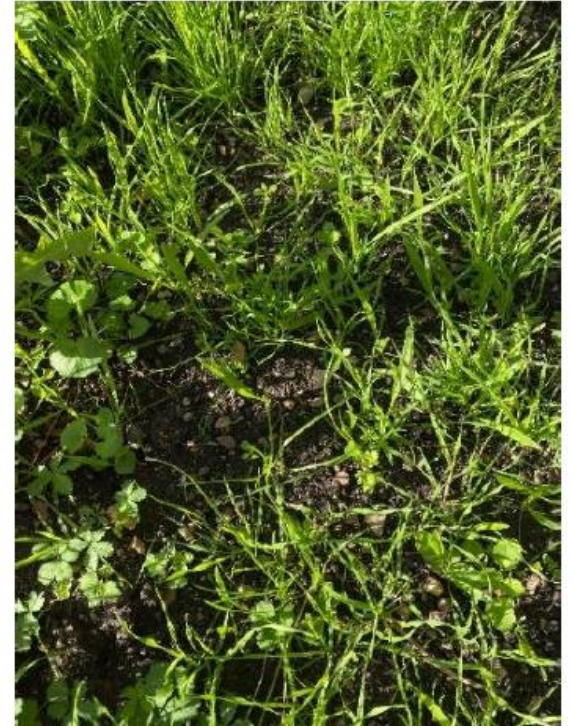
19

2022 - Sowing Seed along Portugal Place



Red Campion, Black Meddick, Common Knapweed, Ox-eye Daisy, Ribwort Plantain, Yarrow, Field Poppy, Lady's Bedstraw, Bulbous Buttercup, Cowslip and Salad Burnet

2022 – Sowing King Charles' Meadow



Seed from the meadows at Prince Charles' home at Highgrove House, Gloucestershire

2023

The Changing Faces of the Garden

2022

2023



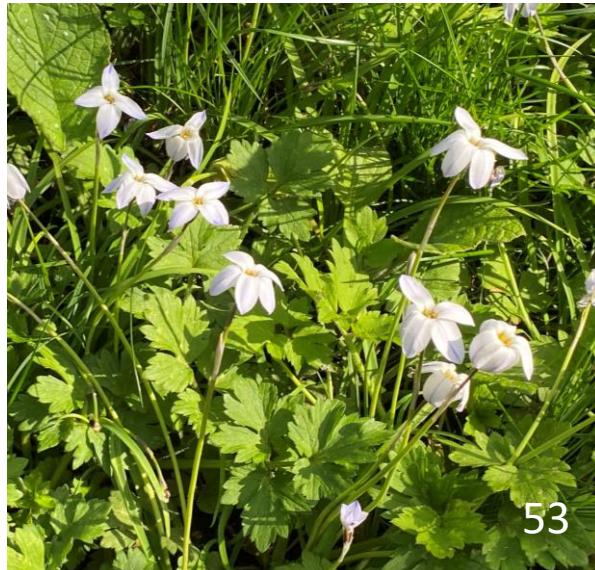
Spring 2023



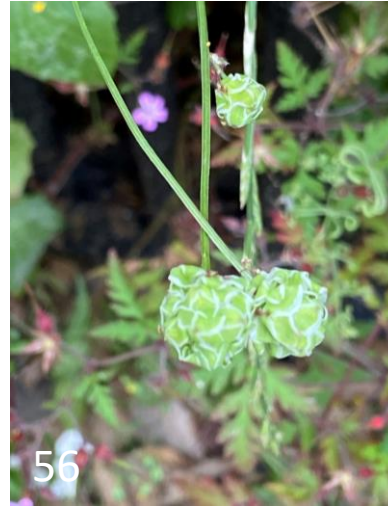
Bridge Street Wildflowers in 2023



Portugal Place Wildflowers in 2023



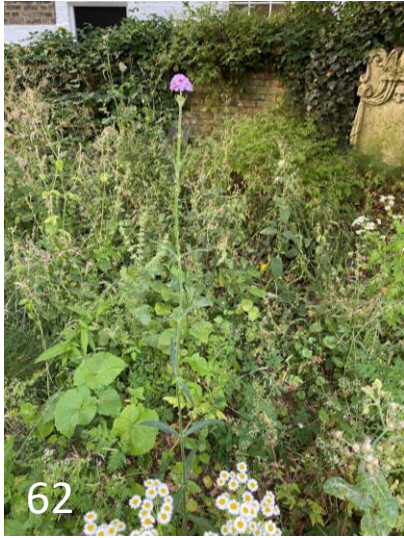
2023 Portugal Place



2023 Portugal Place



2023 Portugal Place



King's College Concept



The wildflower meadow has been harvested each year by Shire horses, with the resultant bales being used to create more wildflower meadows across the city of Cambridge and the hay offered as cow feed in winter to local farmers. The mowing is an important process to create space for the wildflowers to regenerate and this traditional method of harvesting causes lower soil compaction and minimises the impact on the meadow's flora and fauna.

FIND OUT MORE:



Sustainable Planting

Innovative gardening methods can help slow global warming by increasing carbon storage in soil and plants, and making green spaces more resilient to climate change.

The Clare Border at King's started life as an experiment in dry gardening, using a range of plants such as Echiniums that require very little water to grow successfully in the increasingly arid seasons experienced in Cambridge, thereby minimising the need for irrigation. All green waste that comes out of the College is recycled, composted and spread back on the gardens, with woody materials chipped and reused.

FIND OUT MORE:



From King's College Lawn to St Clement's



Autumn 2022



Spring 2023

Honesty Summer 2023



Campions in 2023



Silene dioica
(Red Champion)



Silene latifolia
(White Champion)

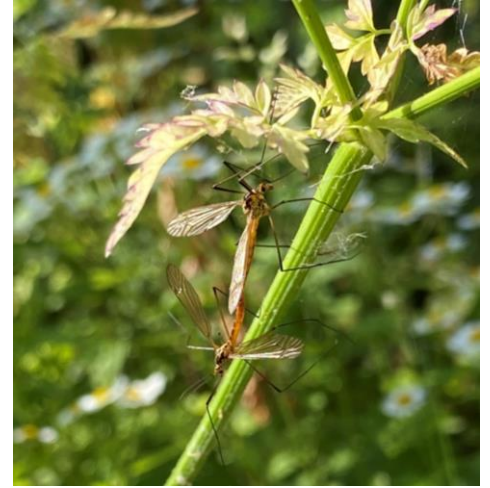


Silene noctiflora
(Night-flowering
Catchfly)



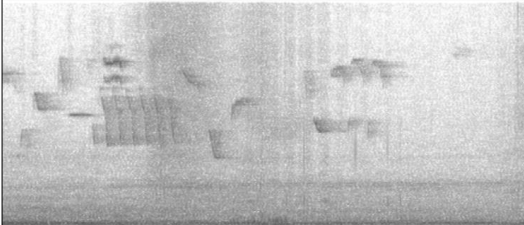
Silene fimbriata
(Fringed Champion)

Insect Ecosystems







Bird Life revealed by Sonogram

19 Jun - Cambridge, England ✕

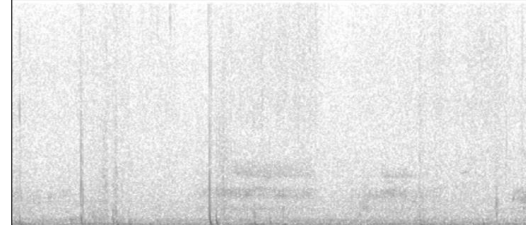


BEST MATCHES •








	Eurasian Wren
	Common Wood-Pigeon
	European Robin


 01:47.51

19 Jun - Cambridge, England ✕



BEST MATCHES

	Eurasian Wren
	Common Wood-Pigeon
	European Robin
	Eurasian Magpie
	European Goldfinch
	Eurasian Blackbird
	Eurasian Jackdaw

 16:41.00

Summary

Good biodiversity > 135 plant species.

Differential expression seen (eg 2022 vs 2023).

More observations needed (time, place, weather).

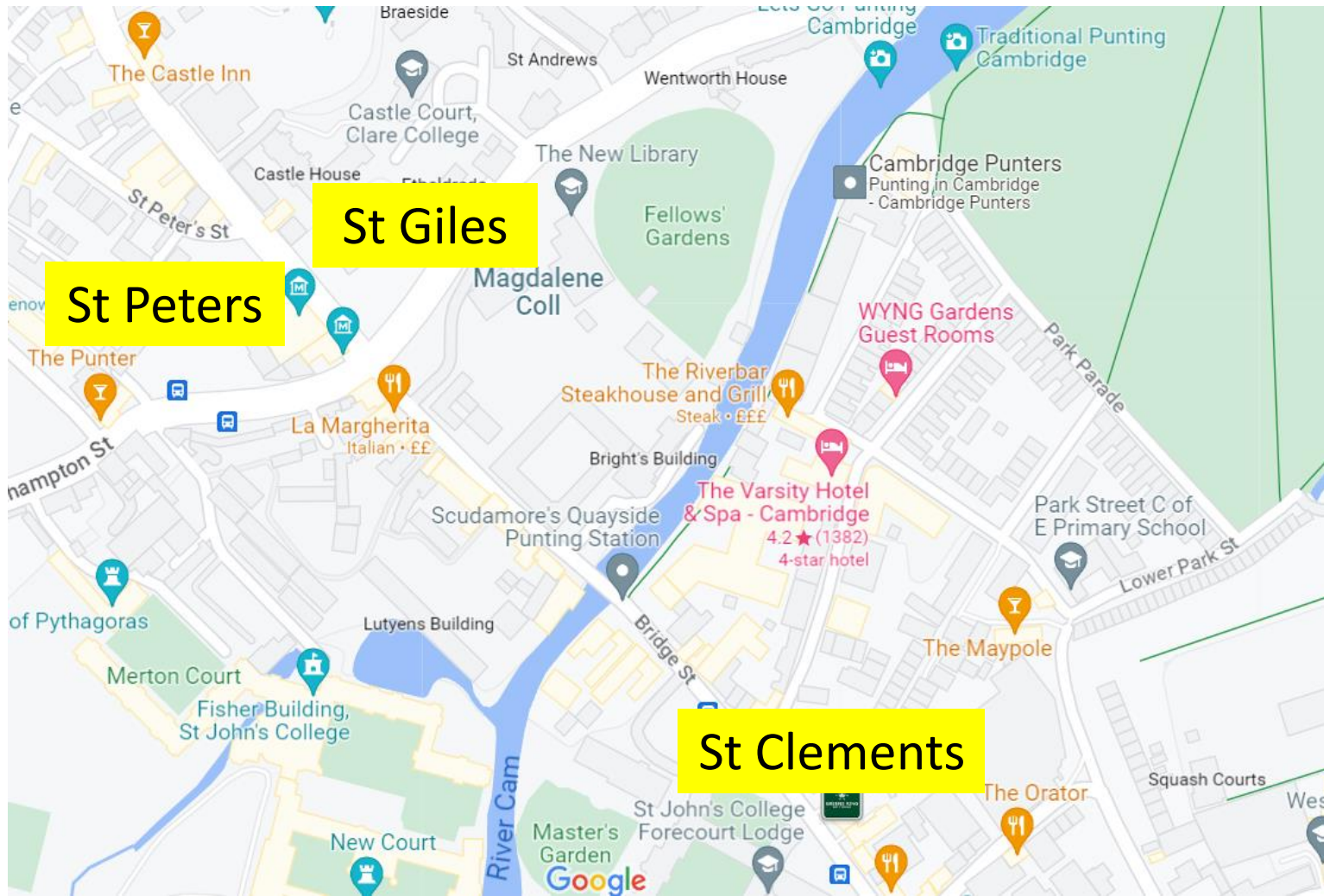
Global warming, climate change effects?

Entomology? Need to consider life-cycles.

Bird life? More observations and nurture needed.

Appendix

St Clement's is only one of several
local churchyard gardens



St Giles

St Peters

St Clements

St Peter's A Wilderness Churchyard



St Giles' An Urban Churchyard



People Involved to date

St Clement's team

David Bailey



John Gatiss



Karl Sanderson



Richard Fentiman



Neighbours