

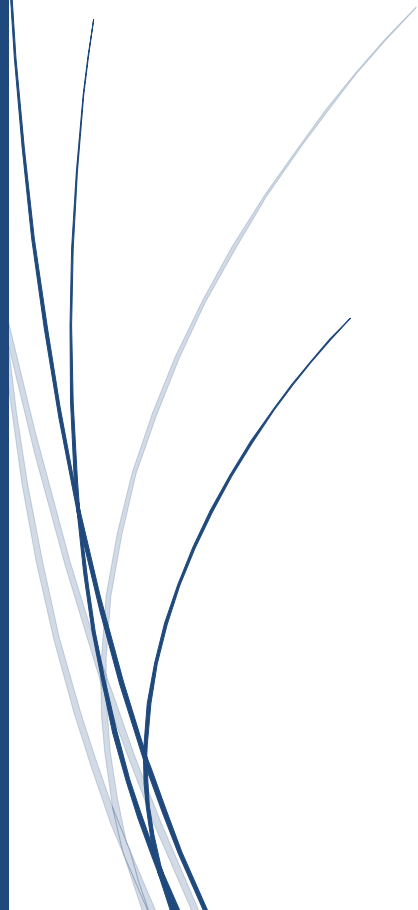


# Baseline Survey Report

Community Pollinator Fund – West of England

Report date:

1<sup>st</sup> December 2023



# 1. Survey Methodology

## 1.1. Habitats Assessment

1.1.1. The broad vegetation and habitat types present within each of the sites were categorized and mapped in accordance with the UK Habitat Classification methodology with a minimum mapping unit of 25 m<sup>2</sup> (UKHab Ltd, 2023). A list of plant species were recorded for each habitat during a structured walk through the extent of the habitat. The abundance of plant species was recorded using the DAFOR system:

- Dominant;
- Abundant;
- Frequent;
- Occasional;
- Rare.

## 1.2. Invertebrate Assessment

1.2.1. Methodologies employed to collect terrestrial invertebrates broadly followed those suggested by Natural England (NE) for carrying out invertebrate assessments (Drake, *et. al.*, 2007). They involve the use of a range of invertebrate sampling techniques, such as ground searching, sweeping and beating, with the aim being to collect samples representative of all the main habitats present on each site. Each site was divided into survey units, which are described and illustrated in the relevant habitat account and habitat Map (e.g. section 3.1 and Figure 2 for the SGS College site). These survey units have been the basis for recording invertebrates with the full data to be found in the Results Table prepared for each site (e.g. Table 3 for the SGS College).

1.2.2. The main focus of the survey was to record pollinator species, primarily butterflies, bumblebees and solitary bees. The timing of the survey was sub-optimal for the latter group, which have their peak activity period in late spring but was within the optimal period for recording the greatest diversity of butterflies and bumblebees. It is hoped to carry out future surveys of these sites in late May, which will focus on recording solitary bees and early-flying butterfly species that would have been missed this year.

1.2.3. A 'W-route' was walked slowly in each survey unit with any flower-rich patches of likely pollinator feeding/foraging resources being approached to within a distance of no more than two metres. Numbers of all butterflies and bumblebees in each survey unit were recorded. For all other invertebrates (including any late-flying solitary bees) only presence/absence was recorded. The workers of White-tailed *B. lucorum* and Buff-tailed *B. terrestris* Bumblebees, are indistinguishable and have been recorded as '*B. lucorum/terrestris* worker'. Even where definite males or queens of the 'White-tailed Bumblebee' were observed, these comprise a complex of three very similar segregate species, only separable by microscopic examination, which were therefore recorded here as '*Bombus lucorum* agg.'

1.2.4. Butterflies and bumblebees have been named in the field but for many invertebrates, it is necessary to collect specimens for identification with a microscope in the lab. All specimens collected have been identified to species level. Examples of groups covered

in this report include: beetles (Coleoptera); selected fly (Diptera) families such as robberflies and allies (Larger Brachycera) and hoverflies (Syrphidae) and ants, bees and wasps (Aculeate Hymenoptera). These invertebrate groups have been selected because they are well represented in the habitat types present on these sites (e.g. grassland, ruderal vegetation and scrub). Records have also been kept of all invertebrates noted within easily identified groups such as butterflies (Lepidoptera), and grasshoppers, crickets and allies (Orthopteroidea). Both of these groups can also be a useful group for assessment of grassland habitats. Specimens of any important invertebrates recorded during the 2023 survey have been retained in the author's collection.

### 1.3. Limitations

- 1.3.1. The absence of any particular species during the survey is not considered evidence of absence. The surveys were undertaken quite late in the year in relation to pollinators. This constraint is not considered significant as weather conditions were broadly favourable and the time of year is considered during the interpretation of the results.

## 2. Newbridge Open Space

### 2.1. Background

2.1.1. Newbridge Open Space is a park owned by Bath and North East Somerset Council, the council are looking to enhance areas of the park, particularly along its northern extent through the planting of meadow, management of woodland habitat and planting of pollinator flower beds.

### 2.2. Habitats

2.2.1. The site is situated in an urban environment, near to the River Avon and bordered by roads. The site is used as a public park and frequented by dogwalkers and families.

2.2.2. The habitats identified within the site included: modified grassland; other neutral grassland; other woodland, broadleaved; line of trees; priority hedgerow (Figure 5, Table 6).

2.2.3. Modified grassland is the most prominent habitat within the site, given the site's primary use as a public park (P18). The modified grassland communities are dominated by nutrient-loving species, such as Perennial Rye Grass and Annual Meadow Grass *Poa annua*. The grasslands are under intensive short-mowing regimes. One of these areas contains a play area, while another contains some shrubs and has a slightly taller sward (P19 and P20, respectively).

2.2.4. There are three main areas of other neutral grassland within the site. In the northwest of the site there is a large expanse of other neutral grassland, which is species-rich (P21). Within this northwestern habitat, there is a stand with abundant young trees (P22). In the northeast of the site, there is another, more isolated stand of other neutral grassland with scattered trees, this habitat is less species-rich than the other examples of this habitat (P22). In general, these grasslands are subject to a low intensity mowing regime, and are likely to be subject to less physical disturbance than the surrounding modified grassland habitats.

2.2.5. Other woodland, broadleaved, is present in two locations within the site. In the northwest of the site this forms a large strip of mature woodland, which connects to woodland outside of the site (P23). This example of the habitat is dominated by Ash with frequent Field Maple *Acer campestre* and other species indicative of limestone ash woodland habitat types, which are likely to arise due to the underlying ground conditions. However, there are some conifers within the canopy as well, which detract from the overall ecological value of this woodland.

2.2.6. In the east of the site, there is a recently planted stand of other woodland, broadleaved, with an understory of other neutral grassland (P24). This comprises a diverse array of young trees associated with limestone soils.

- 2.2.7. Along the southern border of the site there is a mature line of primarily Lombardy Poplar *Populus nigra 'Italica'*, rarely with Black Poplar *Populus nigra* (P25). This line of trees runs parallel to another line, comprised predominantly of Ash, together they form an avenue of trees. This linear feature connects to woodland habitat at the western extent of the site.
- 2.2.8. Along the eastern border of the site there is a priority hedgerow, which contains scattered trees (P26). The hedgerow is comprised of a mixture of Ash, Elder *Sambucus nigra*, English Elm *Ulmus procera* and Hawthorn.

### 2.3. Invertebrates

- 2.3.1. This was an interesting site for invertebrates because of the range of habitat features present, despite its small size. The area of flower-rich grassland appeared to be well-managed and had a range of butterfly species present, including the local Brown Argus.
- 2.3.2. Wood-chip piles had an interesting beetle fauna that included the Nationally Scarce rove beetle *Medon apicalis*.
- 2.3.3. Old trees had some well-developed dead wood habitat features (e.g. The Dryad's Saddle bracket fungus *Polyporus squamosus* and the Chicken-of-the-woods bracket *Laetiporus sulphureus*). The local dead wood specialist beetle *Bitoma crenata* was recorded here.

### 2.4. Recommendations

- 2.4.1. Some outline recommendations in relation to Newbridge Open Space are provided below.
- It is recommended that the existing grassland management of the areas of other neutral grassland is continued as it is providing a rather diverse grassland in places. It would be desirable to extend this form of management into some of the modified grassland areas.
  - The creation of a pond within the modified grassland, or between areas of other neutral grassland, would be beneficial to the overall biodiversity within the site.
  - The site contains many mature trees that are considered important. It is recommended that these features are afforded protection in any future management within the site, if they require management (for example on health and safety grounds), this should be undertaken sensitively to ensure their long-term health (for example through pollarding). Any deadwood arising from management should be retained within the site as stacked piles, providing additional invertebrate habitat.



Figure 1. Newbridge Open Space Habitat Plan

Table 1. Newbridge Open Space Habitat Details

Reference	Habitat	Plant Species (Scientific)	Plant Species (Common)	Invertebrate Species	Secondary Code(s)	Area / Length
NOS1	g4 – modified grassland	Plantago major O Lolium perenne D Trifolium repens A Poa annua F Bellis perennis F Geranium molle O Achillea millefolium R	Greater Plantain O Perennial Rye Grass D White Clover A Annual Meadow Grass F Common Daisy F Dove's-foot Crane's-bill O Yarrow R	None	108 - 'Frequently mown'	7480.41 m <sup>2</sup>
NOS2	w1g6 – line of trees	Fraxinus excelsior D Betula pendula O Populus nigra ssp italica F Populus nigra R  Lolium perenne D Dactylis glomerata A Trifolium repens F Anthriscus sylvestris O Agrostis stolonifera F Ranunculus repens O Rumex sanguineus O Hordeum murinum O Geum urbanum O	Ash D Silver Birch O Lombardy Poplar F Black Poplar R  Perennial Rye Grass D Cock's-foot A White Clover F Cow Parsley O Creeping Bent F Creeping Buttercup O Wood Dock O Wall Barley O Wood Avens O	<i>Cornu asperum</i> Garden Snail <i>Pentatoma rufipes</i> Forest Shieldbug <i>Medon apicalis</i> A rove beetle <b>NS</b> .	33 - Line of trees	149.48 m
NOS3	g4 – modified grassland	Crepis capillaris F Lolium perenne D Taraxacum agg. F Prunus padus O Bellis perennis O	Smooth Hawksbeard F Perennial Ryegrass D Dandelion F Bird Cherry O Common Daisy O	None	32 - 'Scattered trees' 201 - 'Young trees - planted' 823 - 'Children's Play Space'	1445.77 m <sup>2</sup>
NOS4	w1g – other woodland, broadleaved*	Sorbus aria agg. Rosa canina agg. Acer campestre Cornus sanguinea Carpinus betulus Viburnum lantana  Phleum pratense F Dactylis glomerata F Lolium perenne A Poa pratensis O Taraxacum agg. O Trifolium repens F Holcus lanatus O	Common Whitebeam Dog Rose Field Maple Common Dogwood Hornbeam Wayfaring Tree  Timothy F Cock's-foot F Perennial Rye Grass A Smooth Meadow Grass O Dandelion O White Clover F Yorkshire Fog O	None	201 - 'Young trees - planted'	751.55 m <sup>2</sup>
NOS5	g3c – other neutral grassland*	Tilia x europaea Crataegus monogyna Crataegus persimilis  Dactylis glomerata A Arrhenatherum elatius O Lolium perenne D Hordeum murinum O Jacobaea vulgaris R Poa trivialis O Agrostis stolonifera A Taraxacum agg O Phleum pratense O Ranunculus repens O Potentilla reptans O Holcus lanatus R Plantago lanceolata R	Common Lime Hawthorn Broad-leaved Cockspur Thorn  Cock's-foot A False-oat Grass O Perennial Rye Grass D Wall Barley O Common Ragwort R Rough Meadow Grass O Creeping Bent A Dandelion O Timothy O Creeping Buttercup O Creeping Cinquefoil O Yorkshire Fog R Ribwort Plantain R	<i>Chorthippus brunneus</i> Field Grasshopper <i>Pterostichus vernalis</i> A ground beetle <i>Lithocharis nigriceps</i> A rove beetle <i>Rugilus orbiculatus</i> A rove beetle <i>Xantholinus longiventris</i> A rove beetle <i>Tytthaspis sedecimpunctata</i> 16-spot Ladybird <i>Eriothrix rufomaculata</i> A parasite fly <i>Lasioglossum calceatum</i> Common Furrow Bee <i>Philoscia muscorum</i> Common Striped Woodlouse	32 - 'Scattered trees' 33 - 'Line of trees'	722.00 m <sup>2</sup>

Reference	Habitat	Plant Species (Scientific)	Plant Species (Common)	Invertebrate Species	Secondary Code(s)	Area / Length
		Trifolium repens O Hypochaeris radicata O Agrostis capillaris O	White Clover O Common Cat's-ear O Common Bent O			
<b>NOS6</b>	g4 – modified grassland*	Juglans regia Prunus avium Malus sp.  Hordeum murinum F Dactylis glomerata A Lolium perenne D Rumex obtusifolius R Agrostis stolonifera A Achillea millefolium F Phleum pratense O Taraxacum agg. O Geranium molle R Trifolium repens O Scorzeneroidea autumnalis F Rumex pulcher R	Walnut Wild Cherry Apple  Wall Barley F Cock's-foot A Perennial Rye Grass D Broad-leaved Dock R Creeping Bent A Yarrow F Timothy O Dandelion O Dove's-foot Crane's-bill R White Clover O Autumn Hawkbit F Fiddle Dock R	<i>Arion ater</i> Large Black Slug <i>Forficula auricularia</i> Common Earwig <i>Bitoma crenata</i> A Zopherid beetle <i>Lasius niger</i> Black Garden Ant <i>Porcellio scaber</i> Common Rough Woodlouse	201 - Young trees - planted	309.69 m <sup>2</sup>
		Laetiporus sulphureus	Chicken of the Woods			
<b>NOS7</b>	g3c – other neutral grassland	Lotus corniculatus F Centaurea nigra F Lolium perenne A Phleum pratense F Dactylis glomerata F Trifolium pratense F Taraxacum agg. O Medicago sativa R Achillea millefolium F Medicago lupulina O Geranium molle O Galium album O Hypochaeris radicata O Leucanthemum vulgare OLF Plantago lanceolata O Jacobaea vulgaris R Elymus repens O Poa trivialis F Rumex obtusifolius R Trifolium repens O Cirsium vulgare R	Common Bird's-foot Trefoil F Common Knapweed F Perennial Rye Grass A Timothy F Cock's-foot F Red Clover F Dandelion O Lucerne R Yarrow F Black Medick O Dove's-foot Crane's-bill O Hedge Bedstraw O Common Cat's-ear O Oxe-eye Daisy OLF Ribwort Plantain O Common Ragwort R Common Couch O Rough Meadow Grass F Broad-leaved Dock R White Clover O Spear Thistle R	<i>Aeshna mixta</i> Migrant Hawker dragonfly <i>Metrioptera roeselii</i> Roesel's Bush-cricket <i>Lasioglossum calceatum</i> Common Furrow Bee <i>Megachile willughbiella</i> Willughby's Leafcutter Bee	16 - 'Tall forbs' 18 - 'species-rich grassland' 61 - 'Re-created habitat'	1126.48 m <sup>2</sup>
<b>NOS8</b>	w1g – other woodland, broadleaved	Acer platanoides F Fraxinus excelsior A Sorbus aria agg. R Sambucus nigra O Thuja plicata O Betula pendula R Prunus avium O Fagus sylvatica f. purpurea R  Geum urbanum A Crataegus monogyna F Rumex sanguineus O Rubus fruticosus agg. A Hedera helix A Ilex aquilifolium R Bryonia dioica O	Norway Maple F Ash A Common Whitebeam R Elder O Western Red Cedar O Silver Birch R Wild Cherry O Copper Beech R  Wood Avens A Hawthorn F Wood Dock O European Bramble Complex A Common Ivy A European Holly R White Bryony O	<i>Ambigolimax valentianus</i> Iberian Threeband Slug <i>Myathropa florea</i> A hoverfly	None	1206.17 m <sup>2</sup>



Reference	Habitat	Plant Species (Scientific)	Plant Species (Common)	Invertebrate Species	Secondary Code(s)	Area / Length
<b>NOS9</b>	g3c – other neutral grassland	Prunus padus O Prunus avium O Acer campestre O Sorbus aucuparia O Crataegus monogyna O	Bird Cherry O Wild Cherry O Field Maple O Rowan O Hawthorn O	<i>Calopteryx splendens</i> Banded Demoiselle damselfly <i>Rhagonycha fulva</i> A soldier beetle <i>Pieris brassicae</i> Large White butterfly - 1 <i>Pieris rapae</i> Small White butterfly - 2 <i>Pararge aegeria</i> Speckled Wood butterfly - 2 <i>Maniola jurtina</i> Meadow Brown butterfly - 8 <i>Vanessa Atalanta</i> Red Admiral butterfly - 1 <i>Polygonia c-album</i> Comma butterfly - 1 <i>Aricia agestis</i> Brown Argus butterfly - 4 <i>Polyommatus icarus</i> Common Blue butterfly - 7 <i>Bombus lucorum/terrestris</i> Buff-tailed/White-tailed Bumblebee workers - 3 <i>Bombus lapidarius</i> Red-tailed Bumblebee - 4 <i>Bombus pascuorum</i> Common Carder Bumblebee - 3	201 - Young trees - planted	268.74 m <sup>2</sup>
<b>NOS10</b>	h2a – priority hedgerow	Bryonica dioica O Rubus fruticosus agg. A Sambucus nigra O Fraxinus excelsior F Ulmus procera O Hedera helix F Crataegus monogyna O Solanum dulcamara R Cirsium arvense R Urtica dioica F Humulus lupulus R	White Bryony O European Bramble Complex A Elder O Ash F English Elm O Common Ivy F Hawthorn O Bittersweet R Creeping Thistle R Common Nettle F Common Hop R	<i>Monacha cantiana</i> Kentish Snail <i>Rhyzobius litura</i> A ladybird <i>Psyllobora vigintiduopunctata</i> 22-spot Ladybird <i>Harmonia axyridis</i> Harlequin Ladybird <i>Cartodere bifasciata</i> A mould beetle <i>Lasius flavus</i> Yellow Meadow Ant	11 - Hedgerow with trees	80.84 m
* Relative abundance was not recorded for newly planted trees.						

## APPENDIX 1: Habitat photographs



**P18 – Short mown modified grassland at Newbridge Open Space**



**P19 – Modified grassland with playground at Newbridge Open Space**



**P20 – Modified grassland with shrubs and a taller, less frequently mown sward at Newbridge Open Space**



**P21 – Species-rich other neutral grassland in the northwest of Newbridge Open Space**



**P22 – Species-rich other neutral grassland with planted trees in the northwest of Newbridge Open Space**



**P23 – Other neutral grassland with scattered trees in the northeast of Newbridge Open Space**



**P24 – strip of broadleaved woodland in northwest of Newbridge Open Space**



**P25 – Plantation of broadleaved woodland within other neutral grassland on the eastern side of Newbridge Open Space**



**P26 – Avenue of trees along the southern border of Newbridge Open Space**



**P27 – Priority hedgerow along the eastern border of Newbridge Open Space**