



Biddenham Conservation Volunteers

Cowslip Meadow, Biddenham Plant Survey 2023

Introduction

BCV conducted a survey of the plants in the meadow in 2022. These results were compared to an earlier sample in 2017. This year (2023) it was decided to repeat the survey.

Our aim was to improve accuracy of identification. We decided this would be a qualitative survey to confirm the species list, and no counting would be undertaken.

Methods

The meadow was divided into areas A-H. Last year we had different zone areas. It will not therefore be possible to compare exactly the location of plants.

The plants were identified by a combination of volunteer's botanical knowledge, the use of ID apps and field guides. There is obviously scope for error in identification. Another source of error is casual sampling based on spotting prominent plants and especially those in flower. Early in spring we had quantitatively surveyed cowslips using quadrats. On our two survey dates aimed at finding early and then late flowering plants we split into groups and took different courses from South to North through the meadow.

This method largely took in plants close to footpaths and we may have missed species out of immediate sight. In the late flowering survey the density and height of plants in the meadow may have caused us to miss rarer occurring and less prominent species, especially those dwarfed by taller ones.

The anticipated results will be an update of the species list for the meadow's flowering plants.

The meadow map with areas A-H is shown.



West on top of photo, east to bottom, north to right.

Results

The compiled observation sheets produced a species list, which was later combined with perimeter trees from their separate survey.

This list is shown here:

Cowslip Meadow, Biddenham: Plant Species List 2023

Grasses, reeds, rushes, moss: alphabetic on genus

1. Grass, sweet vernal (*Anthoxanthum odoratum*)
2. Grass, false/wild oat (*Arrhenatherum elitius*)
3. Side oats grama (*Bouteloua curtipendula*)
4. Reed (*Calamagrostis* spp)
5. Sedge, common (*Carex nigra*)
6. Sedge, pendulous (*Carex pendula*)
7. Moss, pointed spear (*Calliergonella cuspidate*)
8. Grass, crested dog's tail (*Cynosurus cristatus*)
9. Cocksfoot (*Dactylis glomerata*).
10. Grass, velvet *aka* Yorkshire fog (*Holcus lanatus*)
11. Rush, compact (*Juncus conglomeratus*)
12. Grass, perennial rye (*Lolium perenne*)
13. Grass, meadow / Kentucky Rye (*Poa pratensis*)
14. Moss, big shaggy (*Rhytidiadelphus triquetrus*)
15. Timothy (*Phleum pratense*)
58. Grass vetchling (*Lathyrus nissolia*)
59. Yellow vetch (*Lathyrus pratensis*)
60. Rough hawkbit (*Leontodon hispidus*)
61. Ox-eye daisy (*Leucanthemum vulgare*)
62. Common bird's-foot trefoil (*Lotus corniculatus*)
63. Greater Bird's-foot trefoil (*Lotus pedunculatus*)
64. Black medic (*Medicago lupulina*)
65. Forget-me-not (*Myosotis sylvaticae*)
66. Red bartsia (*Odontites vernus*)
67. Poppy (*Papaver rhoeas*)
68. Ribwort plantain (*Plantago lanceolata*)
69. Cowslip (*Primula veris*)
70. Self-heal (*Prunella vulgaris*)
71. Plum (*Prunus* spp.)
72. Fleabane (*Pulicaria dysenterica*)
73. Buttercup (*Ranunculus bulbosus*)
74. Buttercup, meadow (*Ranunculus acris*)
75. Yellow rattle (*Rhinanthus minor*)
76. Sorrel (*Rumex acetosa*)
77. Dock, curly (*Rumex crispus*)
78. Dock, broad-leafed (*Rumex obtusifolius*)
79. Willow, creeping (*Salix repens*)
80. Water figwort (*Scrophularia auriculata*)
81. Figwort (*Scrophularia nodosa*)
82. Ragwort, hoary (*Senecio erucifolius*)
83. Ragwort (*Senecio jacobaea*)
84. Thistle, spiney or prickly sow (*Sonchus asper*)
85. Thistle, sow (*Sonchus oleraceus*)
86. Campion, white (*Silene alba*)
87. Campion, red (*Silene dioica*)
88. Hedge mustard (*Sisymbrium officinale*)
89. Common chickweed (*Stellaria media*)
90. Tansy (*Tanacetum vulgare*)
91. Dandelion (*Taraxacum officinale*)
92. Salsify, yellow goats' beard (*Tragopogon dubius*)
93. Salsify (*Tragopogon porrifolius*)
94. Thistle, creeping (*Cirsium arvense*)
95. Thistle, spear (*Cirsium vulgare*)
96. Trefoil, hop (*Trifolium campestre*)
97. Trefoil, lesser (*Trifolium dubium*)
98. Clover, red (*Trifolium pratense*)
99. Clover, white (*Trifolium repens*)
100. Stinging nettle (*Urtica dioica*)
101. Vetch, tufted (*Vicia cracca*)
102. Vetch, hairy (*Vicia hirsute*)
103. Vetch, common (*Vicia sativa*)

Field meadow plants: alphabetic on genus

16. Yarrow (*Achillea millefolium*)
 17. Meadow foxtail (*Alopecurus pratensis*)
 18. Agrimonia (*Agrimonia eupatoria*)
 19. Pyramidal orchid (*Anacamptis pyramidalis*)
 20. Cow parsley (*Anthriscus sylvestris*)
 21. Common mud wort (*Artemisia vulgaris*)
 22. Daisy (*Bellis perensis*)
 23. Soft brome (*Bromus hordeaceus*)
 24. Barren brome (*Bromus sterilis*)
 25. Bindweed (*Calystegium sepium*)
 26. Lesser knapweed (*Centaurea nigra*)
 27. Common centaury (*Centaureum erythraea*)
 28. Sweet chamomile (*Chamaemelum nobile*)
 29. Thistle, meadow (*Cirsium dissectum*)
 30. Thistle, spear (*Cirsium vulgare*)
 31. Wild basil (*Clinopodium vulgare*)
 32. Hawks beard (*Crepis aquinii*)
 33. Hawks beard, rough (*Crepis biennis*)
 34. Hawks beard, smooth (*Crepis capillaris*)
 35. Hawks beard, beaked (*Crepis vesicaria*)
 36. Hound's tongue (*Cynoglossum officinale*)
 37. Crested dog's tail (*Cynosurus cristatus*)
 38. Orchid, marsh (*Dactylorhiza elata*)
 39. Orchid, common spotted (*Dactylorhiza fuchsii*)
 40. Wild carrot (*Daucus carota*)
 41. Horsetail (*Equisetum arvense*)
 42. Willowherb, fringed (*Epilobium ciliatum*)
 43. Willowherb, hoary (*Epilobium parviflorum*)
 44. Smooth tare (*Ervum tetraspermum*)
 45. Ladies' bedstraw (*Galium verum*)
 46. Cranesbill, cut leaf (*Geranium dissectum*)
 47. Cranesbill, Dave's foot (*Geranium molle*)
 48. Cranesbill, meadow (*Geranium pratense*)
 49. Cranesbill, small flowered (*Geranium pusillum*)
 50. Geranium, hedge (*Geranium pyrenaicum*)
 51. Ground ivy (*Glechoma hederacea*)
 52. Bristly oxtongue (*Helminthotheca echioides*)
 53. Cow parsnip *aka* Hogweed (*Heracleum sphondylium*)
 54. Common St John's wort (*Hypericum perforatum*)
 55. Field scabious (*Knautia arvensis*)
 56. Yellow archangel (*Lamium galeobdolon*)
 57. Common nipplewort (*Lapsana communis*)
- Tree Species (meadow perimeter)
104. Italian Alder (*Alnus cordata*)
 105. Alder (*Alnus glutinosa*)
 106. Ash (*Fraxinus excelsior*)
 107. Buckthorn Alder (*Frangula alnus*)
 108. Buckthorn (*Rhamnus cathartica*)
 109. Blackthorn (*Prunus spinosa*)
 110. English Oak (*Quercus robur*)
 111. Field Maple (*Acer campestre*)
 112. Field Elm (*Ulmus minor*)
 113. Hawthorn (*Crataegus laevigata*)

114. Hazel (*Corylus avellana*)
115. Cherry Plum (*Prunus cerasifera*)
116. Scots Pine (*Pinus sylvestris*)
117. Spindle (*Euonymus europaeus*)
118. Sycamore (*Acer pseudoplatanus*)
119. Wild Cherry (*Prunus avium*)
120. Small-leaved Lime (*Tilia cordata*)
121. Purging Buckthorne (*Rhamnus cathartica*)
122. Norway Maple (*Acer platanoides*)
123. Crack Willow (*Salix fragilis*)
124. Grey Willow (*Salix cinerea*)
125. Common Osier Willow (*Salix viminalis*)
126. Red Osier Dogwood (*Cornus sericea*)
127. Goat Willow (*Salix caprea*)
128. Dog Rose (*Rosa canina*)
129. Guelder Rose (*Viburnum opulus*)
130. Hornbeam (*Carpinus betulus*)
131. Black Poplar (*Populus nigra*)

Analysis

We have identified 131 plant species, 27 being trees and of the 104 flower species 15 were grasses, moss, reeds or sedge.

12 species found in 2022 were missed from this year's survey. This may be because they haven't grown this year, or they were missed by our investigative method. They include:

1. Grass, bristly dog's tail (*Cynosurus echinatus*)
2. Creeping bent (*Agrostis stolonifera*)
3. Greater burdock (*Arctium lappa*)
4. Geranium, carolina (*Geranium carolinianum*)
5. Prickly lettuce (*Lactuca serriola*)
6. Mallow (*Malva sylvestris*)
7. Yellow wood sorrel (*Oxalis stricta*)
8. Artic rattlebox (*Rhinanthus groenlandicus*)
9. Black-eyed Susan (*Rudbeckia hirta*)
10. Black woundwort (*Stachys sylvatica*)
11. Corn spurrey (*Spergula arvensis*)
12. Hedge parsley (*Torilis japonica*)

We identified several new species to add to the list. They may not have grown in 2022, or be missed by our sampling last year, or result from more careful and accurate identification, or simply be from newly arrived seed. Certainly, there is improved proficiency within the volunteer samplers at plant identification. The newly recorded species are:

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|---|---|
| 1. Grass, sweet vernal (<i>Anthoxanthum odoratum</i>) | 17. Orchid, marsh (<i>Dactylorhiza elata</i>) |
| 2. Grass, false/wild oat (<i>Arrhenatherum elatius</i>) | 18. Willowherb, fringed (<i>Epilobium ciliatum</i>) |
| 3. Side oats grama (<i>Bouteloua curtipendula</i>) | 19. Cranesbill, small flowered (<i>Geranium pusillum</i>) |
| 4. Reed (<i>Calamagrostis spp</i>) | 20. Geranium, hedge (<i>Geranium pyrenaecium</i>) |
| 5. Grass, crested dog's tail (<i>Cynosurus cristatus</i>) | 21. Ground ivy (<i>Glechoma Hederacea</i>) |
| 6. Grass, perennial rye (<i>Lolium perenne</i>) | 22. Yellow archangel (<i>Lamium galeobdolon</i>) |
| 7. Grass, meadow / Kentucky Rye (<i>Poa pratensis</i>) | 23. Common nipplewort (<i>Lapsana communis</i>) |
| 8. Meadow foxtail (<i>Alopecurus pratensis</i>) | 24. Grass vetchling (<i>Lathyrus nissolia</i>) |
| 9. Agrimonia (<i>Agrimonia eupatoria</i>) | 25. Greater Bird's-foot trefoil (<i>Lotus pedunculatus</i>) |
| 10. Daisy (<i>Bellis perensis</i>) | 26. Water figwort (<i>Scrophularia auriculata</i>) |
| 11. Barren brome (<i>Bromus sterilis</i>) | 27. Ragwort, hoary (<i>Senecio erucifolius</i>) |
| 12. Sweet chamomile (<i>Chamaemelum nobile</i>) | 28. Campion, white (<i>Silene alba</i>) |
| 13. Thistle, meadow (<i>Cirsium dissectum</i>) | 29. Campion, red (<i>Silene dioica</i>) |
| 14. Thistle, spear (<i>Cirsium vulgare</i>) | 30. Hedge mustard (<i>Sisymbrium officinale</i>) |
| 15. Wild basil (<i>Clinopodium vulgare</i>) | 31. Vetch, hairy (<i>Vicia hirsute</i>) |
| 16. Crested dog's tail (<i>Cynosurus cristatus</i>) | |

In 2022, we found 31 trees and 82 flower or grass species. This year we have recorded many more species and our results for both 2022 and 2023 show much greater biodiversity than the very comprehensive 2007 survey.

Confirming the species list is probably not an annual task and mixed in with periodic quantitative surveys this will maintain our monitoring of biodiversity and give an idea of the species that thrive in the meadow.

Nigel R Orton