

The Lower Crane Meadows

A brief habitat appraisal

For

FORCE

July 2019



72 Sonning Gardens

Hampton

Middlesex

TW12 3PN

T – 020 8979 7810

M – 07813 329396

E - enquiries@salixecology.co.uk

W – www.salixecology.co.uk

1.0 Site descriptions

1.1 Mill Road site

- 1.1.1 The northern area of the site close to the river was grass dominated. Principal species included perennial rye-grass *Lolium perenne* and cocksfoot *Dactylis glomerata*. There was a small stand of California brome *Bromus carinatus* close to the path. Forbs in this area included frequent yarrow *Achillea millefolium* with occasional tansy *Tanacetum vulgare*, hedge mustard *Sisymbrium officinale*, ribwort plantain *Plantago lanceolata*, Common ragwort *Jacobaea vulgaris* and greater burdock *Arctium lappa*.
- 1.1.2 To the south of the path, false oat-grass *Arrhenatherum elatius* was more frequent with abundant sterile brome *Anisantha sterilis* and frequent cock's-foot. Forbs included frequent ribwort plantain, locally abundant tansy and a small population of lady's bedstraw *Galium verum*. There were also small stands of common knapweed *Centaurea nigra*. Other species that occurred only occasionally included small flowered cranesbill *Geranium pusillum*, dove's-foot crane's-bill *Geranium molle*, lucerne *Medicago sativa sativa* and goat's-beard *Tragapogon pratense*.
- 1.1.3 There were two large raised bunds formed of dredgings from the River Crane which were dominated by bramble scrub.
- 1.1.4 There were small amounts of Japanese knotweed in one area which appear to have been treated in the past.
- 1.1.5 The northern boundary of the meadow, adjacent to the river, was formed of mature trees including pedunculate oak. Shrubs included elder *Sambucus nigra*, and hawthorn *Crataegus monogyna*. The Understory was a mixture of herbs such as common mallow *Malva sylvestris*, greater burdock, hedge mustard and black horehound *Ballota nigra*. There were also mature hawthorn trees within the meadow.
- 1.1.6 Large areas of bramble scrub were recorded along the eastern boundary and the southern boundary was also predominantly dense bramble scrub with abundant common nettle *Urtica dioica*. There were also some mature crack willow *Salix fragilis* trees here.
- 1.1.7 Soil sample results were as follows:
- pH 7.3
Phosphorus index: 4.4
Total nitrogen: 4854 mg/kg
- Sand: 71.45%
Silt: 25.99%
Clay: 2.56%
Soil Type: Sandy Loam

1.2 Fulwell Park Meadows

- 1.2.1 This was an extensive damp meadow. Abundant grasses included cock's-foot and perennial rye-grass with frequent Yorkshire fog *Holcus lanatus* and false oat-grass. Meadow barley *Hordeum secalinum* was also frequent in some areas. Meadow foxtail *Alopecurus pratensis* occurred only occasionally. Forbs included frequent meadowsweet *Filipendula Ulmaria* and occasional meadow vetchling *Lathyrus pratensis* and red clover *Trifolium pratense*. Hogweed *Heracleum sphondylium* was rare. Greater plantain *Plantago major* was abundant close to the path.
- 1.2.2 The southern part of the site was less managed with frequent bramble and creeping thistle. To the east there was a large stand of reed canary-grass *Phalaris arundinacea*. There was also a large copse of crack willow, pedunculate oak *Quercus robur*, ash *Fraxinus excelsior* and hawthorn in this area.
- 1.2.3 The northern boundary of the meadow comprised mature trees including ash, Hybrid black poplar *Populus x canadensis* and field maple *Acer campestre*.
- 1.2.4 Soil sample results were as follows:

pH 7.6
Phosphorus index: 3.4
Total nitrogen: 7544 mg/kg

Sand: 25.18%
Silt: 62.24%
Clay: 12.58%
Soil Type: Sandy Silt Loam
Drainage Rate: Rapid

1.3 Willow way

- 1.3.1 This is a small meadow adjacent to the River Crane. The central area was mainly grassland. Grasses included abundant false oat-grass, barren brome and frequent cock's-foot. California brome was rare. The meadow was relatively flower-rich and included abundant yarrow, ribwort plantain and mugwort *Artemisia vulgaris*. Creeping cinquefoil *Potentilla reptans*, bristly oxtongue *Helminthotheca echioides* were frequent and scattered throughout the sward. Other forbs included hogweed, green alkanet *Pentaglottis sempervirens*, black medick *Medicago lupulina*, weld *Reseda luteola*, white campion *Silene latifolia* and common mallow *Malva sylvestris*.
- 1.3.2 The northern, river side, of the meadow was predominantly bramble scrub with frequent common nettle, black horehound, mugwort and cow parsley. Shrubs included elder and hawthorn. There were also mature trees including grey poplar *Populus x canescens*, ash and sycamore *Acer pseudoplatanus*
- 1.3.3 There was a newly planted hedgerow along the southern boundary comprising hawthorn, rose *Rosa sp*, wild privet *Ligustrum vulgare* and Spindle *Euonymus europaeus*.
- 1.3.4 Soil sample results were as follows:

pH 7.5
Phosphorus index: 4.4
Total nitrogen: 2757 mg/kg
Sand: 44.56%
Silt: 48.69%
Clay: 6.75%
Soil Type: Sandy Silt Loam
Drainage rate: Rapid

2.0 Discussion

- 2.1 All three meadows can be classified as semi-improved neutral grassland. They are moderately species-rich and the Mill Road meadow in particular supported a number of species usually associated with unimproved species-rich grassland such as lady's bedstraw, goat's beard, oxeye daisy and common knapweed. However coarse, competitive grasses such as perennial rye-grass, false oat-grass and cock's-foot were abundant in each of the meadows. These species indicate that the meadows have had some nutrient enrichment either through fertilizer application in the past or by another mechanism such as dog fouling over a period of time. This is borne out by the soil sample results which show high levels of phosphates and nitrogen for each meadow. The high phosphate levels, in particular, preclude restoration to species rich lowland meadow, at least in the short term. However, appropriate management to tackle coarse grasses, including removal of cut arisings, will progressively reduce nutrient load over time.
- 2.2 Fulwell Park meadows had a different character than the other meadows in that a number of wetland species such as meadowsweet and reed canary-grass were recorded in places. This may be related to the higher proportion of clay found in the soil sample for this area, impeding drainage.

3.0 Comparison with previous surveys

- 3.1 It is not possible to make objective comparisons with previous surveys using the methods employed in these walk-over surveys. However, many of the species of interest recorded at the Mill Road and Willow Way sites in 2017 were also recorded in 2019.
- 3.2 At the Mill Road site additional species of interest recorded in 2019 included lady's bedstraw, oxeye daisy and small-flowered crane's-bill. These are all species often associated with unimproved soils, although some may have been planted.
- 3.3 At the Willow Way site, there was a reduction in the number of species recorded, with 71 records in 2017 and 38 recorded in 2019. Many of the species present in 2017 but absent in 2019 were species associated with disturbed ground such as broad-leaved willowherb *Epilobium montanum*, short-fruited willowherb *Epilobium obscurum*, hoary mustard *Hirschfeldia incana*, field forget-me-not *Myosotis arvensis*, prickly sow-thistle *Sonchus asper* and smooth sow-thistle *Sonchus oleraceus*. This change may be a response to a change in management.

4.0 Recommended management

- 4.1 In order to restore the Mill Road meadow to its fullest extent, it is recommended that a program of bramble and tree removal is undertaken. Bramble control is likely to be needed at least on an annual basis. These works should be undertaken outside the bird breeding season (March to August). If trees are to be removed, a risk assessment and, if necessary, surveys for bats should be undertaken.
- 4.2 All meadows should continue to be cut through scything with arisings removed shortly after cutting. The first cut should take place around mid-July each year then once more before Christmas. Changing between earlier cuts (after mid-July) and later cuts (in late August) can be beneficial rather than cutting at the same time each year. If possible, harrowing following cutting will reduce thatch build up and allow wildflowers to set seed.
- 4.3 Consideration should be given to reduce the incidence of dog fouling either through notices or the provision of dog waste bins.

5.0 Species lists

- 5.1 The vascular plant species list was compiled from a site visit carried out on 19 June 2019. Scientific nomenclature follows Stace (2019) for vascular plant species. Vascular plant common names follow the Botanical Society of the British Isles 2003 list, published on its web site, www.bsbi.org.uk. Please note that this plant species list was generated as part of site walk over and does not constitute a full botanical survey.
- 5.2 Abundance was estimated using the DAFOR scale as follows: Dominant, Abundant, Frequent, Occasional, Rare. The following modifiers were used where appropriate: T (mature tree), Y (young tree), S (seedling or sapling), W (wet area or hollows), D (dry area or high places), C (clumped), G (throw out or escape) P (planted), E (edge), F (footpath), ? (identity uncertain), * - along footpath to west of meadow or by river.

5.2 Mill Road site

Taxon	Common name	Abundance	Qualifier
<i>Acer pseudoplatanus</i>	Sycamore	Occasional	T, S
<i>Achillea millefolium</i>	Yarrow	Frequent	
<i>Alliaria petiolata</i>	Garlic Mustard	Occasional	
<i>Allium vineale</i>	Wild Onion	Occasional	C
<i>Alopecurus pratensis</i>	Meadow Foxtail	Occasional	
<i>Anisantha sterilis</i>	Barren Brome	Frequent	
<i>Anthriscus sylvestris</i>	Cow Parsley	Frequent	
<i>Arctium lappa</i>	Greater burdock	Occasional	
<i>Armoracia rusticana</i>	Horse-radish	Occasional	
<i>Arrhenatherum elatius</i>	False Oat-grass	Abundant	
<i>Ballota nigra</i>	Black Horehound	Frequent	C
<i>Bromus carinatus</i>	California brome	Abundant	C
<i>Buddleja davidii</i>	Butterfly-bush	Rare	
<i>Calystegia silvatica</i>	Large Bindweed	Frequent	
<i>Capsella bursa-pastoris</i>	Shepherd's-purse	Rare	
<i>Centaurea nigra</i>	Common Knapweed	Occasional	C
<i>Cirsium arvense</i>	Creeping Thistle	Occasional	

Taxon	Common name	Abundance	Qualifier
<i>Crataegus monogyna</i>	Hawthorn	Occasional	
<i>Crepis biennis</i>	Rough Hawk's-beard	Rare	
<i>Cynosurus cristatus</i>	Crested Dog's-tail	Occasional	
<i>Dactylis glomerata</i>	Cock's-foot	Frequent	
<i>Dipsacus fullonum</i>	Wild Teasel	Occasional	
<i>Fraxinus excelsior</i>	Ash	Occasional	T, Y, S
<i>Galium aparine</i>	Cleavers	Frequent	C
<i>Galium verum</i>	Lady's Bedstraw	Occasional	C
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	Occasional	
<i>Geranium molle</i>	Dove's-foot Crane's-bill	Rare	
<i>Geranium pusillum</i>	Small-flowered Crane's-bill	Rare	
<i>Geum urbanum</i>	Wood Avens	Rare	
<i>Hedera helix</i>	Ivy	Frequent	
<i>Heracleum sphondylium</i>	Hogweed	Frequent	
<i>Hordeum murinum</i>	Wall Barley	Frequent	C
<i>Hyacinthoides non-scripta</i>	Bluebell	Rare	? (possibly hybrid bluebell)
<i>Iberis amara</i>	Wild Candytuft	Occasional	P
<i>Ilex aquifolium</i>	Holly	Occasional	Y
<i>Impatiens glandulifera</i>	Indian Balsam	Frequent	W
<i>Jacobaea vulgaris</i>	Common ragwort	Occasional	
<i>Lactuca serriola</i>	Prickly Lettuce	Rare	
<i>Lamium album</i>	White Dead-nettle	Occasional	
<i>Lapsana communis</i>	Nipplewort	Rare	
<i>Leucanthemum vulgare</i>	Oxeye Daisy	Occasional	
<i>Lolium perenne</i>	Perennial Rye-grass	Abundant	
<i>Malva sylvestris</i>	Common Mallow	Occasional	
<i>Matricaria discoidea</i>	Pineappleweed	Occasional	F
<i>Medicago sativa sativa</i>	lucerne	Rare	
<i>Pentaglottis sempervirens</i>	Green Alkanet	Frequent	
<i>Pinus sylvestris</i>	Scots Pine	Occasional	T
<i>Plantago lanceolata</i>	Ribwort Plantain	Frequent	
<i>Plantago major</i>	Greater Plantain	Occasional	F
<i>Poa annua</i>	Annual Meadow-grass	Occasional	F
<i>Poa trivialis</i>	Rough Meadow-grass	Occasional	C
<i>Polygonum aviculare</i>	Knotgrass	Occasional	C, F
<i>Poterium sanguisorba</i>	Salad Burnet	Rare	
<i>Poterium sanguisorba ssp sanguisorba</i>	Fodder burnet	Rare	?
<i>Prunus avium</i>	Wild Cherry	Occasional	S, Y
<i>Quercus robur</i>	Pedunculate Oak	Occasional	T
<i>Ranunculus acris</i>	Meadow Buttercup	Occasional	C
<i>Rubus fruticosus agg.</i>	Bramble	Frequent	
<i>Rumex obtusifolius</i>	Broad-leaved Dock	Occasional	C
<i>Salix fragilis</i>	Crack-willow	Occasional	T
<i>Salvia verbenaca</i>	Wild clary	Rare	

Taxon	Common name	Abundance	Qualifier
<i>Sambucus nigra</i>	Elder	Occasional	Y
<i>Silene dioica</i>	Red Campion	Rare	
<i>Silene latifolia</i>	White Campion	Occasional	
<i>Sisymbrium officinale</i>	Hedge Mustard	Occasional	
<i>Sonchus oleraceus</i>	Smooth Sow-thistle	Occasional	
<i>Tanacetum vulgare</i>	Tansy	Frequent	
<i>Tragopogon pratensis</i>	Goat's beard	Occasional	
<i>Urtica dioica</i>	Common Nettle	Abundant	C

5.3 Fulwell Park Meadows

Taxon	Common name	Abundance	Qualifier
<i>Acer campestre</i>	Field Maple	Rare	T
<i>Allium vineale</i>	Wild Onion	Occasional	
<i>Alopecurus pratensis</i>	Meadow Foxtail	Rare	
<i>Anthriscus sylvestris</i>	Cow Parsley	Frequent	C
<i>Arctium lappa</i>	Greater burdock	Rare	
<i>Arrhenatherum elatius</i>	False Oat-grass	Frequent	
<i>Calystegia silvatica</i>	Large Bindweed	Occasional	C
<i>Carpinus betulus</i>	Hornbeam	Rare	T
<i>Cirsium arvense</i>	Creeping Thistle	Occasional	C
<i>Dactylis glomerata</i>	Cock's-foot	Frequent	
<i>Elytrigia repens</i>	Common Couch	Rare	
<i>Filipendula ulmaria</i>	Meadowsweet	Frequent	C
<i>Fraxinus excelsior</i>	Ash	Occasional	T
<i>Galium aparine</i>	Cleavers	Frequent	C
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	Occasional	
<i>Heracleum sphondylium</i>	Hogweed	Occasional	
<i>Hirschfeldia incana</i>	Hoary Mustard	Rare	C
<i>Holcus lanatus</i>	Yorkshire-fog	Occasional	
<i>Hordeum murinum</i>	Wall Barley	Frequent	
<i>Hordeum secalinum</i>	Meadow Barley	Frequent	C
<i>Iris pseudacorus</i>	Yellow Iris	Rare	
<i>Lathyrus pratensis</i>	Meadow vetchling	Occasional	
<i>Leucanthemum vulgare</i>	Oxeye Daisy	Rare	
<i>Lolium perenne</i>	Perennial Rye-grass	Abundant	
<i>Phalaris arundinacea</i>	Reed Canary-grass	Frequent	C
<i>Plantago major</i>	Greater Plantain	Frequent	F
<i>Populus nigra x deltoides = P. x canadensis</i>	Hybrid Black-poplar	Rare	T
<i>Quercus robur</i>	Pedunculate Oak	Rare	T
<i>Ranunculus acris</i>	Meadow Buttercup	Occasional	
<i>Ranunculus repens</i>	Creeping Buttercup	Rare	
<i>Reynoutria japonica</i>	Japanese knotweed	Rare	C
<i>Rubus fruticosus agg.</i>	Bramble	Frequent	
<i>Rumex obtusifolius</i>	Broad-leaved Dock	Rare	
<i>Salix fragilis</i>	Crack-willow	Rare	T
<i>Sisymbrium officinale</i>	Hedge Mustard	Occasional	
<i>Trifolium pratense</i>	Red Clover	Occasional	
<i>Trifolium repens</i>	White Clover	Rare	

Taxon	Common name	Abundance	Qualifier
<i>Ulmus procera</i>	English Elm	Rare	S
<i>Urtica dioica</i>	Common Nettle	Abundant	

5.4 Willow Way

Taxon	Common name	Abundance	Qualifier
<i>Acer pseudoplatanus</i>	Sycamore	Rare	T
<i>Achillea millefolium</i>	Yarrow	Frequent	
<i>Aesculus hippocastanum</i>	Horse-chestnut	Rare	S
<i>Anisantha sterilis</i>	Barren Brome	Frequent	
<i>Anthriscus sylvestris</i>	Cow Parsley	Occasional	C
<i>Arctium minus</i>	Lesser Burdock	Rare	
<i>Arrhenatherum elatius</i>	False Oat-grass	Frequent	
<i>Artemisia vulgaris</i>	Mugwort	Occasional	
<i>Ballota nigra</i>	Black Horehound	Occasional	
<i>Bromus carinatus</i>	California brome	Rare	
<i>Cirsium arvense</i>	Creeping Thistle	Occasional	
<i>Cirsium vulgare</i>	Spear Thistle	Occasional	
<i>Convolvulus arvensis</i>	Field Bindweed	Occasional	
<i>Crataegus monogyna</i>	Hawthorn	Frequent	P
<i>Dactylis glomerata</i>	Cock's-foot	Occasional	
<i>Euonymus europaeus</i>	Spindle	Rare	S, P, E
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	Occasional	
<i>Helminthotheca echioides</i>	Bristly Oxtongue	Occasional	
<i>Heracleum sphondylium</i>	Hogweed	Occasional	
<i>Hordeum murinum</i>	Wall Barley	Occasional	
<i>Jacobaea vulgaris</i>	Common ragwort	Rare	
<i>Lapsana communis</i>	Nipplewort	Rare	
<i>Ligustrum vulgare</i>	Wild Privet	Occasional	P
<i>Malva sylvestris</i>	Common Mallow	Occasional	
<i>Medicago lupulina</i>	Black Medick	Occasional	C
<i>Pentaglottis sempervirens</i>	Green Alkanet	Frequent	
<i>Plantago lanceolata</i>	Ribwort Plantain	Frequent	
<i>Poa pratensis</i>	Smooth Meadow-grass	Frequent	
<i>Populus alba x tremula = P. x</i>	Grey Poplar	Rare	T
<i>Potentilla reptans</i>	Creeping Cinquefoil	Occasional	
<i>Reseda luteola</i>	Weld	Occasional	
<i>Rosa</i>	Rose	Rare	P
<i>Rubus fruticosus agg.</i>	Bramble	Occasional	
<i>Sambucus nigra</i>	Elder	Rare	Y
<i>Silene latifolia</i>	White Campion	Occasional	
<i>Sisymbrium officinale</i>	Hedge Mustard	Occasional	
<i>Trifolium pratense</i>	Red Clover	Occasional	
<i>Urtica dioica</i>	Common Nettle	Frequent	

6.0 References

Stace, C.A., 2019. *New Flora of the British Isles (4th Ed.)*. Cambridge University Press, Cambridge.