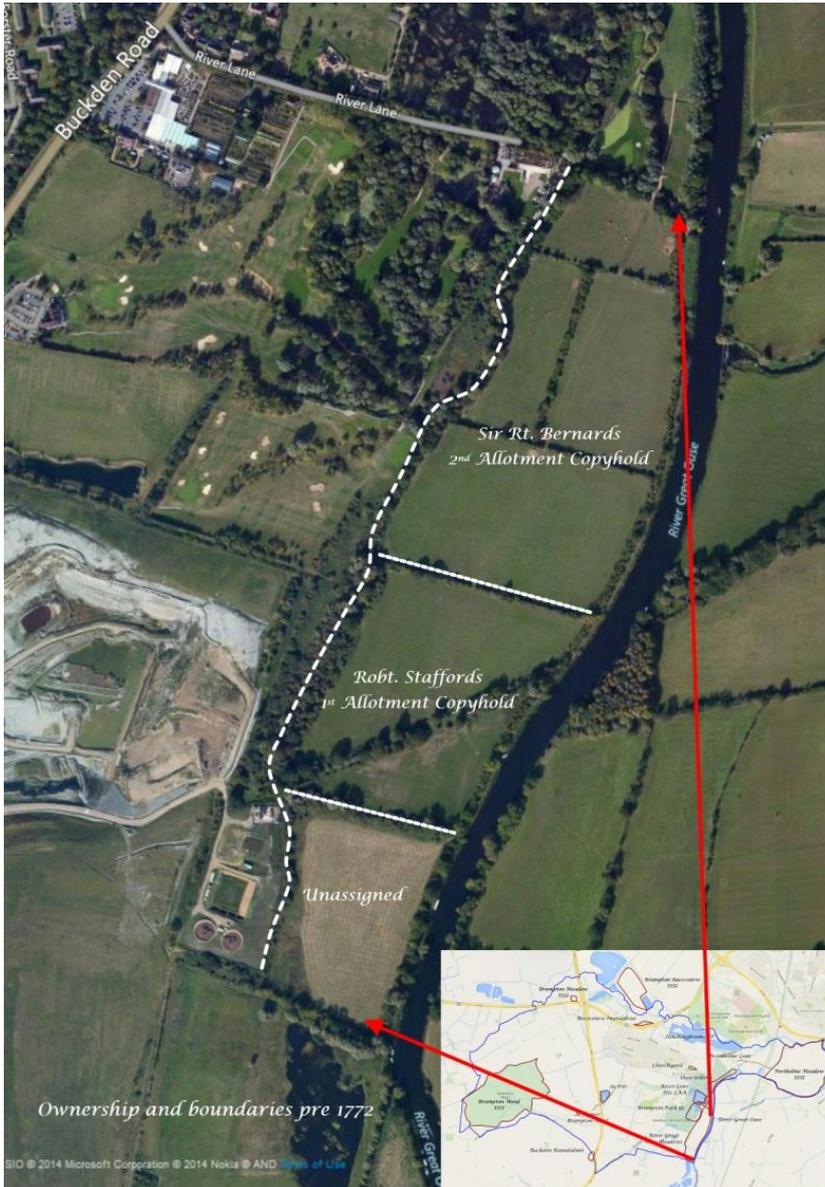




Hotspot Report, River Great Ouse floodplain Meadows TL215707

Brampton Biodiversity Project

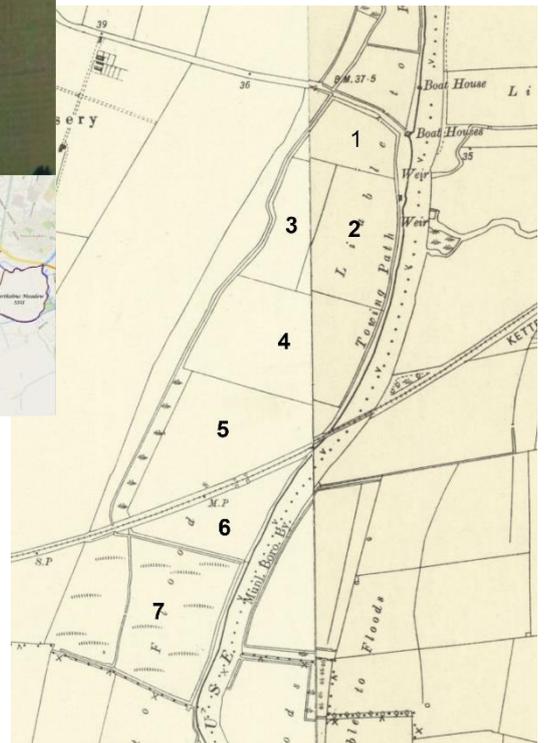
[Dr J Patrick Doody February 2016, email jp.doody@ntlworld.com] updated August 2018



Location maps

These meadows typify the situation along much of the River Great Ouse valley. The field boundaries present in 1772 when the map used to delimit the ownership boundaries was drawn (shown in white on the Google map) are still present today. The additional boundaries/hedges were established, presumably as part of the enclosure award, which in the case of Brampton was 1772.

By 1902 when the OS map shown below was published the



hedgerows (field boundaries) appear largely intact. [This is different to the agricultural areas in the west of the Parish where arable land is predominant, and many hedges (field boundaries) have been lost.] In this case, the now disused railway to Kettering bisects one of the lower fields (5 & 6). Note the majority of shrubs marking the boundary between fields 2/3 and 1 have been grubbed out in the last couple of years and replaced by a wire fence.

Agricultural change

In 1915 the British Government launched a campaign to increase food production. The Board of Agriculture through an executive Department established a War Agricultural Executive Committee (W.A.E.C.) in every county. Originally encouraging farmers to increase the output of grain and potatoes, in 1917 powers were taken to improve land husbandry and extend cultivated land (Sheail 1974). A further campaign took place in 1939 when under the Emergency Powers (Defence) Act of 1939, the Minister of Agriculture was empowered “To preserve and maintain agricultural land solely for the production of food, to control, by order the cultivation, management and use of the land in order to secure maximum production from the farms; to terminate any tenancy of agricultural land where it is considered the land is being neglected or badly cultivated” (Emergency Powers Act 1939; p. 256).

Sheail, J., 1974. The role of the war agricultural and executive committees in the food production campaign of 1915–1918 in England and Wales. *Agricultural Administration*, **1/2**, 141-154.

Under this Act one of the meadows in the river valley (Portholme) near Huntingdon was subject to an experiment on 5 acres of land, known as “Five Head Acres” (Hunts Post March 1943). Carried out by the Demonstration Sub-Committee of the W.A.E.C. the experiment set out to establish whether “ploughing, fertiliser treatment and sowing with a grassland mix would be able to support “grasses of higher quality than those at present growing there”. If so, other river valley floodplain meadowland might be treated in a comparable way. The experiment was extended to 50 acres and between 1944 and 1951 the ‘Requisitioned Land’ was re-seeded, fenced off and heavily grazed; annual applications of fertiliser being applied. “The whole resulting in a highly productive pasture carrying a minimum of 50 head of stock after the initial spring growth had ceased.”

This approach, or something similar, appears to have taken place on many of the Ouse Valley meadows. Surveys of the meadows along the valley including these Brampton flood plain meadows provide a record of these changes. There is evidence to suggest that despite the survival of the landscape features the wildlife interest of the meadow (plants, invertebrates and probably breeding birds) is much less now than formerly. This is largely due to the use of artificial fertilisers to increase the hay crop and herbicides to reduce the occurrence of weedy species such as creeping thistle. Mowing and aftermath grazing continue to be the main management. In 1989 the southernmost meadow, shown as rough grassland (Field 7) on the 1902 map, remained. This supported several wetland plants in its western corner, including those listed below. This small remaining part of the unimproved wet meadow was destroyed by an extension to the refuge tip in 1986.

Agrostis stolonifera Creeping Bent
Angelica sylvestris Wild Angelica
Carex hirta Hairy Sedge
Carex otrubae False Fox-sedge
Carex riparia Greater Pond-sedge
Cirsium palustre Marsh Thistle
Deschampsia cespitosa Tufted Hair-grass
Epilobium hirsutum Great Willowherb
Filipendula ulmaria Meadowsweet
Galium palustre Common Marsh-bedstraw
Holcus lanatus Yorkshire-fog
Iris pseudacorus Yellow Iris
Juncus inflexus Hard Rush
Lathyrus pratensis Meadow Vetchling

Lychnis flos-cuculi Ragged-Robin
Phalaris arundinacea Reed Canary-grass
Potentilla anserine Silverweed
Ranunculus acris Meadow Buttercup
Ranunculus bulbosus Bulbous Buttercup
Scrophularia nodosa Common Figwort
Scutellaria galericulata Skullcap
Trifolium medium Zigzag Clover

In addition, Snipe *Gallinago gallinago* Woodcock
Scolopax rusticola Oystercatcher *Haematopus ostralegus* were also recorded (Personal record JPD)



Picture: Grazed 'rushy' meadow 1989 north of River Lane was typical of the meadows at that time. Now part of Brampton Park Golf Club.

Flora of the meadows

Previous work in the Ouse Valley has recognised the importance of the species-rich flood meadows. "A survey of the grasslands

along the Ouse Valley was undertaken in 1987 (*Cambridgeshire Rivers & Meadows Survey: River Ouse St Neots to Earith*, R. Newman, 1987, NCC). This was supplemented through the County Habitat Survey 1992-97, when selected grassland sites were visited during 1997 as part of a phase 2 survey." These earlier surveys provided a good baseline from which to assess the Ouse Valley wet meadows in later surveys undertaken by the Wildlife Trust. The first of these took place in June 2003. Part of the Ouse Valley Wet Woodland and Wet Meadows Project, this identified the Brampton meadows as a "*Mixture of unimproved, species-rich semi-improved and species-poor grassland*". It gave them a High Priority with a recommendation "*Enhance meadow through improved management & Enhance sward to create new species-rich grassland..... through adoption of a more sympathetic management regime*". The surveyor (Sharon Brown) commenting on their biodiversity said "*All the meadows have been semi-improved and are less species-rich than when visited in 1987. In recent years management has become unfavourable with cutting taking place too early.*"

"Species of interest however, included occasional / rare *Cardamine pratensis*, *Carex hirta*, *C. spicata*, *Centaurea nigra*, *Cerastium fontanum*, *Filipendula ulmaria*, *Galium verum*, *Juncus inflexus*, *J. effusus*, *Lathyrus pratensis*, *Lychnis flos-cuculi*, *Ranunculus acris*, *Rumex acetosa*, *Sanguisorba officinale*, *Silaum silaus*, *Stellaria graminea*, *Trifolium pratense* and *Valeriana officinalis*. However, there were scattered and infrequent in the sward, being mostly confined to a few field corners and margins. The bulk of the meadows were dominated by agricultural grasses including *Arrhenatherum elatius*, *Cynosurus cristatus*, *Dactylus glomerata*, *Holcus lanatus*, *Lolium perenne* and *Poa trivialis*, with *Deschampsia cespitosa* abundant in damper areas (Ouse Valley Wet Woodland & Wet Meadows Report WT BCNP 2005).

By 2010 a further survey of this County Wildlife Site by Martin Baker of the Wildlife Trust concluded: "*The site description from the 2003 survey remains relevant. Most of the fields have been agriculturally improved through the use of herbicides and nitrogen fertiliser, however, they have not been re-seeded and patches of more species-rich flood plain meadow remain, along with a few of the individual flood meadow wild flowers scattered throughout the more improved fields.*"

Wildlife Trust for Bedfordshire, Cambridgeshire, Northamptonshire & Peterborough December (2005). *Ouse Valley Wet Meadows & Wet Woodlands Project, Wet Woodland & Wet Meadows Inventory & Habitat Strategy*. Report Prepared for Huntingdonshire District Council.

Records from the Cambridge & Peterborough Environmental Record Centre for Brampton Floodplain Meadows recorded in 1997 and 2000 show the range of grassland species present.

Latin Name, Common Name

Ajuga reptans, Bugle
Alopecurus pratensis, Meadow Foxtail
Anthoxanthum odoratum, Sweet Vernal-grass
Anthriscus sylvestris, Cow Parsley
Arrhenatherum elatius, False Oat-grass
Bromus hordeaceus, Lesser Soft-Brome
***Cardamine pratensis*, Cuckooflower**
Carex acutiformis, Lesser Pond-sedge
Carex disticha, Brown Sedge
Carex flacca, Glaucous Sedge
Carex hirta, Hairy Sedge
Carex spicata, Spiked Sedge
***Centaurea nigra*, Common Knapweed**
Cerastium fontanum, Common Mouse-ear
Cirsium arvense, Creeping Thistle
Cirsium vulgare, Spear Thistle
Cynosurus cristatus, Crested Dog's-tail
Dactylis glomerata, Cock's-foot
Deschampsia cespitosa, Tufted Hair-Grass
Festuca rubra, Red Fescue
Filipendula ulmaria, Meadowsweet
Galium aparine, Cleavers
***Galium verum*, Lady's Bedstraw**
Geranium dissectum, Cut-leaved Crane's-bill
Glechoma hederacea, Ground-ivy
Heraclium sphondylium, Hogweed
Holcus lanatus, Yorkshire-fog
Hordeum secalinum, Meadow Barley

Juncus inflexus, Hard Rush
Lathyrus pratensis, Meadow Vetchling
***Leucanthemum vulgare*, Oxeye Daisy**
Lolium perenne, Perennial Rye-grass
Lotus corniculatus, Common Bird's-foot-trefoil
Luzula campestris, Field Wood-rush
Lychnis flos-cuculi, Ragged-Robin
Lysimachia nummularia, Creeping-Jenny
Myosotis arvensis, Field Forget-me-not
Poa trivialis, Rough Meadow-grass
Potentilla anserina, Silverweed
***Primula veris*, Cowslip**
Ranunculus acris, Meadow Buttercup
Ranunculus bulbosus, Bulbous Buttercup
Ranunculus lingua, Greater Spearwort
Ranunculus repens, Creeping Buttercup
***Rhinanthus minor*, Yellow-rattle**
Rumex acetosa, Common Sorrel
Rumex crispus, Curled Dock
Rumex obtusifolius, Broad-leaved Dock
***Sanguisorba officinalis*, Great Burnet**
Senecio jacobaea, Ragwort
***Silaum silaus*, Pepper-saxifrage**
Stellaria graminea, Lesser Stitchwort
Taraxacum officinale agg., Dandelion
Trifolium pratense, Red Clover
Urtica dioica, Common Nettle
Vicia cracca, Tufted Vetch

These surveys suggested that the fields included a reasonable selection of plants, typically found in old meadows. These include Crested Dogs-tail *Cynosurus cristatus* and a broad range of other species such as Common Knapweed *Centaurea nigra*, Red Fescue *Festuca rubra*, Red Clover *Trifolium pratense*, Ox-eye Daisy *Leucanthemum vulgare*, Yellow Rattle *Rhinanthus minor*. Additionally, many Cambridgeshire sites have developed on mildly calcareous substrates (chalky boulder clay) and have in places developed richer swards with calcicoles such as Cowslip *Primula veris* and Lady's Bedstraw *Galium verum*, which have all be recorded on these meadows. Other species included Great Burnet *Sanguisorba officinalis* and Pepper-saxifrage *Silaum silaus*.

Sadly, these locally uncommon plants and most of the other herbs are no longer present in the main meadows. As reported by the Wildlife Trust, in 2018 a few species can be found in very few marginal areas on the western boundary of the site.

In this context, the use of artificial fertiliser has had the desired intention of encouraging the more vigorous grasses, which outcompete many of the herbs. The meadows in the Great Ouse Valley are much less common than formerly, having been destroyed by gravel extraction, waste disposal and more recently in Brampton, from the development of the Brampton Park golf course (particularly the meadows north of River Lane). The general appearance of the farmland (see picture below) suggests that the grassland has not been ploughed, at least since the 1940s. Despite the loss of biodiversity, they are relatively free from intensive human disturbance and retain valuable associated features.



Picture of the meadows and associated hedgerows June 2014

Associated habitats

Despite the loss of herb-rich vegetation the hedgerows have a good range of species including those listed below. In those that predate the enclosure acts, i.e. are present on the 1772 map shown above, the presence of at least 11 ‘woody’ trees and shrubs suggest that they could be several hundred years old. Based on a ‘hedge dating’ system devised by Dr Max Hooper* when based at Monk’s Wood Experimental Station in the 1970’s.

Euonymus europaeus, Spindle
Fraxinus excelsior, Ash
Prunus spinosa, Blackthorn
Rhamnus cathartica, Buckthorn
Ruscus aculeatus, Butcher’s Broom
Salix fragilis, Crack Willow

Rosa canina, Dog Rose
Cornus sanguinea, Dogwood
Crataegus monogyna, Hawthorn
Humulus lupulus, Hop
Quercus robur, Oak

*Known as ‘Hooper’s Hedgerow History Hypothesis’, it is summarised as “the Age of the hedge is equal to the number of species x 100”. In this case it uses the presence of ‘woody’ plants, structural species, not climbers (other than roses) or bramble in a 30m length of hedgerow. In theory every native species adds one hundred years to the age of the hedge.

Bird species list

Species	Meadow	River	Scrub/Hedge
Blackcap <i>Sylvia atricapilla</i>	✓		✓
Bullfinch	✓		✓
Carrion Crow	✓		✓
Chaffinch	✓		✓
Chiffchaff	✓		✓
Corn Bunting*	✓		✓
Cuckoo	✓	✓	✓
Dunnock	✓		✓
Garden Warbler	✓		✓
Goldfinch	✓		✓
Great-spotted Woodpecker			
Green Woodpecker	✓		
Greenfinch	✓		✓
Heron	✓	✓	
Jay	✓		✓
Kingfisher	✓	✓	
Lapwing	✓		
Lesser Whitethroat*	✓		✓
Lesser-spotted Woodpecker*			
Linnet	✓		✓
Little Owl*	✓		
Long-tailed Tit	✓		✓
Magpie	✓		✓
Mallard	✓	✓	
Mistle Thrush	✓		✓
Oyster-catcher	✓		
Pheasant	✓		✓
Pied Wagtail	✓	✓	
Red-legged Partridge	✓		
Redshank	✓		
Reed Warbler		✓	
Sand Martin		✓	
Sedge Warbler	✓	✓	✓
Skylark	✓		
Snipe	✓		
Sparrow Hawk	✓		✓
Spotted Flycatcher	✓		✓
Stock Dove	✓		
Tawny Owl	✓		
Tree Creeper	✓		✓
Tree Sparrow*	✓		✓
Tufted Duck		✓	
Turtle Dove*	✓		✓
Water Rail*	✓	✓	
Whitethroat	✓		✓
Willow Warbler	✓		✓
Wren	✓		✓
Yellow hammer*	✓		✓
Yellow Wagtail*	✓	✓	

* Not recorded in recent (last 15 years)

Diptera (Flies)

Between 1983 and 2014 Jon Cole recorded over 350 species of Diptera from these fields.