

## Botanical Survey of Hartwell Pocket Park July 2, 2013

### Introduction

This was a small but very pleasant Pocket Park, and those who manage it have been able to include a variety of habitats and facilities without making the site seem overcrowded. The field sloped very gently down to the north-west with a slightly steeper slope near the north-west corner.

All plants found here are shown on the attached species list.

### The Grassland

The grassland of the Pocket Park was dominated by False Oat-grass *Arrhenatherum elatius*, along with abundant Cock's-foot *Dactylis glomerata* and Rough Meadow-grass *Poa trivialis*, as well as frequent to locally abundant Red Fescue *Festuca rubra*. Other grasses included rarer Meadow Fescue *Festuca pratensis* and Sweet Vernal Grass *Anthoxanthum odoratum*. Among this was occasional to locally quite abundant Meadow Vetchling *Lathyrus pratensis*, Lesser Stitchwort *Stellaria graminea*, Sorrel *Rumex acetosa* and Black Knapweed *Centaurea nigra*. Less widespread was Lady's Bedstraw *Galium verum*, while much rarer was Bird's-foot Trefoil *Lotus corniculatus* and Black Medick *Medicago lupulina*. In the central area, where wildflower plugs had been placed earlier in 2013, there were at least a dozen plants of flowering Yellow-rattle *Rhinanthus minor*. White Clover *Trifolium repens* was most abundant alongside the paths where the grass is mown more frequently, while Meadow Barley *Hordeum secalinum* was most frequent in drier parts, such as near the main entrance. Rather surprisingly, no Common Bent grass *Agrostis capillaris* was found in this grassland. This common grass usually replaces the earlier flowering Red Fescue as the main smaller flowering grass later in the year.

In the damp ground near the north-west corner two sedge species were present in very small numbers: False Fox-sedge *Carex otrubae* and Hairy Sedge *Carex hirta*. Also present in this area was a small amount of Creeping Bent grass *Agrostis stolonifera*, and a tiny amount of Creeping Jenny *Lysimachia nummularia*, which was also found rarely and less typically at the edge of the hard path around the park.

Having had the privilege of being able to watch the grassland of this site develop since 2008, it has been quite noticeable how some forbs (broad-leaved herbs) have spread in recent years in response to the annual hay cut. This applies particularly to Black Knapweed, Meadow Vetchling and Lesser Stitchwort, which in 2008 were present as very scattered and isolated plants, but which have since become locally quite frequent. The previously recorded Pignut *Conopodium majus* was not found this time, but it could easily have been missed.

None of the plants recorded in the grassland here are at all uncommon, but the list does contain nine indicators of good neutral grassland in Northamptonshire, Black Knapweed, Creeping Jenny, Lady's Bedstraw, Meadow Barley, Meadow Vetchling, Bird's-foot Trefoil, Common Sorrel, Lesser Stitchwort and Yellow Oat-grass, and if just eight of these were rather more frequent across the site, then the Pocket Park would qualify as a County Wildlife Site.

A few plants were found only in disturbed areas or on the paths. These included Annual Meadow-grass *Poa annua*, Cut-leaved Crane's-bill *Geranium dissectum*, Ivy-leaved Speedwell *Veronica hederifolia* and *Capsella bursa-pastoris* Shepherd's Purse. Hairy Bittercress *Cardamine hirsuta* was particularly frequent in the gateway, while nearby and close to a pile of bark, there was some particularly luxuriant Black Medick *Medicago lupulina*.

### Other Vegetation

This site included a very striking and multi-coloured "Butterfly Bank" with a rich variety of plants, many of which I am not familiar with. Plants here included the native Foxglove *Digitalis purpurea*, Teasel *Dipsacus fullonum*, Oxeye Daisy *Leucanthemum vulgare*, Hedge Woundwort *Stachys sylvatica* and Red Campion *Silene dioica*; and other plants included Perennial Cornflower *Centaurea cyanus*, and some variety of Lady's Mantle *Alchemilla*.

A low Hawthorn hedge ran along the boundary with the adjacent cemetery to the south. Otherwise there were wide and rambling hedgerows with various small and taller trees and shrubs, as well as locally abundant and scrambling Bramble *Rubus fruticosus* and Dog Rose *Rosa canina*. Also present was locally dominant and suckering Blackthorn *Prunus spinosa* near the compost bins. Tree species in the hedgerows included Sycamore *Acer pseudoplatanus* Ash *Fraxinus excelsior* and Wych Elm *Ulmus glabra*.

Some elm trees here were with clear characteristics of Wych Elm *Ulmus glabra*, but the other elms are notoriously difficult to identify, leaves from high in the canopy of unshaded mature trees being needed for certain identification, and not those of low suckers or shaded examples. Elms here had some characteristics of English Elm *Ulmus procera* and Smooth-leaved Elm *Ulmus minor* but they are recorded here as *Ulmus sp.* Below the wider hedges a few shade species were found, including Dog's Mercury *Mercurialis perennis*, Giant Fescue grass *Festuca gigantea*, Hedge Garlic *Alliaria petiolata*, Herb Robert *Geranium robertianum* a few others.

There was a variety of planted trees and shrubs on the site, most of which were still quite small. These included Sweet Chestnut *Castanea sativa*, Dogwood *Cornus sanguinea*, Hazel *Corylus avellana*, Hornbeam *Carpinus betulus*, Guelder Rose *Viburnum opulus*, Wayfaring tree *V. lantana* and some others. Rather less frequent were Small-leaved Lime *Tilia cordata* and Aspen *Populus tremula*. There was also another *Prunus* species here that was not Blackthorn or Cherry-plum. Below the plantation closest to the cemetery, there was locally quite abundant Lesser Stitchwort, Common Sorrel and Meadow Vetchling. These are likely to decrease as the shrubs grow taller and cast more shade, but in the meantime they are a reservoir of richness from which adjacent poorer grassland might be recolonised.

## National Vegetation Classification (NVC)

The NVC combines various types of British vegetation into communities, based on a selection of constant species, and various associates. Most communities are further divided into sub-communities based on soil type or management regime, and each sub-community has a group of preferential species that separate it from other sub-communities. The value of this system is that it makes it possible to predict how the vegetation might change with changes in treatment of communities such as artificial grasslands where it is human intervention that prevents succession to the climax vegetation of woodland.

At Hartwell Pocket Park the grassland is largely an example of the MG1 community (meaning mesotrophic (or neutral) grassland No. 1), dominated by False Oat-grass and with varying amounts of other coarse grasses, especially Cock's-foot and Yorkshire Fog. This is a type of vegetation that is mown just once, or occasionally twice a year, and is typical of road-verges. As has been shown above, this vegetation can increase in species-richness over time, as long as it is mown at least once a year with the cuttings being removed. Most of the grassland of this site was an example of the species-poor MG1a sub-community (known as the Red Fescue sub-community) with dominant False Oat-grass and abundant Red Fescue grass. This was drifting toward the richer MG1e Black Knapweed sub-community where the preferential plants Black Knapweed, Sweet Vernal Grass and Lady's Bedstraw were locally more frequent.

In places, perhaps where nutrient levels were somewhat higher than average, MG1a was replaced by MG1b, the Nettle sub-community, where Nettle was more frequent and, at Hartwell, also being where Hogweed was particularly abundant.

However, this is not typical meadow grassland. In the traditional hay meadow, there was one (or exceptionally two) crop of hay taken in the summer, with stock then being introduced to graze on the fresh growth. This is known as aftermath-grazing and the length it continued was largely dependent on how wet the ground became in winter, which resulted in the development of different grassland communities. On the driest ground the aftermath-grazing could continue right through until April of the next year when the fields were "shut-up" for hay. The aftermath-grazing knocked out the coarser plants such as Cock's-foot, Cow Parsley, False oat-grass, Hogweed and Nettle, or at least reduced them to a level of both abundance and height where their affect on finer broad-leaved plants was insignificant. This management resulted in richer grassland communities where finer broad-leaved plants were much more abundant, and grasses much less so.

Were it possible to simulate after-math grazing at Hartwell by occasional cuts of the regrowth, then firstly the coarser areas of MG1b grassland would be converted to the MG1a sub-community as the Nettle, Hogweed and other coarser plants were eliminated, and this would also encourage a quicker conversion of poorer MG1a grassland to richer MG1e grassland. Cutting of the regrowth could be done when the grasses are only a few centimetres tall, so there would be no need to worry about the removal of the cuttings.

The benefits of such management can be seen on the site already. An extra cut of the central area, where plugs of wildflowers were introduced earlier in 2013, has resulted in a shorter and finer sward where False Oat-grass was much less vigorous, and where it had been partially replaced by more abundant Meadow Fescue and Red Fescue grasses. At least some of the planted Yellow-rattle was flowering at the time of this survey and may well become established in this area. If so, then as a partial parasite that obtains some of its food from the roots of grasses, it may well contribute to a reduction of vigour in the coarser species.

Over time though, with continued light mowing, the MG1a/MG1e grassland could be converted to richer MG5 Crested Dog's-tail-Black Knapweed grassland. Many of the constant species of MG5 are present already in the Pocket Park, notably Crested Dog's-tail and Black Knapweed themselves, along with Bird's-foot Trefoil, Sweet Vernal Grass, Ribwort Plantain, Red Clover and White Clover.

In a few places on especially nutrient rich ground here, where Nettle was totally dominant and Cleavers abundant, then the NVC classification is OV24, the Nettle-Cleavers community.

### Survey Maps

Map 1 shows the approximate distribution of the coarse species Nettle and Hogweed as a possible bench mark for assessing any future management practices aimed at controlling them.

Map 2 shows the main NVC communities of the Pocket Park.

Tony Balbi, July 2, 2013.