THE HURST WATER MEADOW TRUST

GRASSLAND AND SPECIES LIST

Acknowledgement

This material is taken from the Hurst Water Meadow Site Management Plan 1996-2000, produced by Isabel Jones, Mark Stevenson and Steve Gregory for the Northmoor Trust (Director Dr Steve Head) to all of whom the trustees are deeply indebted.

The National Vegetation Classification (NVC)

The NVC, initiated by Lancaster University, uses records from over 35,000 samples of vegetation to describe plant communities from all natural, semi-natural and major artificial habitats in Great Britain. Each community is assigned a code. The code consists of one or two letters relating to the broad community type (e.g. MG for mesotrophic grassland of H for heathland), and a number which distinguishes sub-divisions of these broad communities. For example, mesotrophic grasslands are divided into 13 communities, MG1-13 (Rodwell 1992).

The NVC in relation to Hurst Meadow was used to provide a baseline survey upon which management decisions and future monitoring schemes could be based. It also allowed us to assess the site and place it in local, regional and national context.

Hurst Meadow

The site consists of a mosaic of habitats from aquatic and emergent vegetation along the riversides, damp ditches, short turf grassland, rank vegetation and remnant hedgerows. Numerous willow pollards border the ditches.

The small patches of wetland plants in the ditch line are of interest and may reflect a time when the ditch was in use. Botanically, all major habitats represented are impoverished and analysis of the survey results is difficult.

None-the-less two distinct communities are apparent.

MG7: Lolium perenne grassland / MG6: Lolium perenne - Cynosurus cristatus grassland

Much of the meadow is dominated by coarse grasses such as meadow foxtail cocksfoot and rye grass and is botanically impoverished. This suggests some form of agricultural improvement, either by application of inorganic fertiliser, herbicide and/or re-seeding. Overgrazing in the summer months could also lead to such impoverishment of the flora.

Considering the absence of crested dogstail and the abundance of meadow foxtail in the survey samples, then the vegetation community which fits best is MG7d: grassland. This is a common component of riverside meadows and considered to be intermediate between the typical MG7 agricultural rye-grass leys and the more botanically rich MG6 grasslands (Rodwell 1992).

MG1: Arrhenatherum elatius grassland

Parts of the meadow have become invaded by false oat grass which is indicative of an inconsistent grazing management. Associated coarse herbs such as cow parsley and cleavers indicate that this is an MG1 community but the precise sub-community is not clear.

Environmental relationships which may have implications for management

The grassland community is typical of agriculturally improved or semi-improved pasture found on heavy, periodically flooded soils in the region. Ad-hoc grazing has further impoverished the sward and the implementation of consistent grazing management will be vital in increasing the site's value for wildlife.

Previously identified as areas of particular interest, there are small patches of wet ground run with an old ditch line. Although periodically flooded, the ditches are beginning to silt up and for much of the year do not hold water. Encouraging a higher water level will give the aquatic species a greater area in which to become established. Grazing of the ditch margins would also prevent the domination by coarse vegetation. It would also create areas of bare mud and a variety of sloping and level margins, so encouraging invertebrates to the area (Kirby 1992, Biggs et al. 1994). In future, some dredging work may be necessary to maintain the ditches.

Areas that are slightly more diverse

Notes: i). Frequency value (I-V). This gives the frequency of occurrence with which a species appears in the series of quadrats taken for each treatment. I is one quadrat in five; II is two in five etc. ii). Maximum cover (1-10). This gives the standard Domin value for the highest percentage ground cover recorded for each species. 1 = few individuals; 2 = several individuals; 3 = many individuals; 4 = 5-10% cover; 5 = 11-25%; 6 = 26-33%; 7 = 34-50%; 8 = 51-75%; 9 = 76-90% and 10 = 91-100%.

Grasses	**Frequency**	**Range**
Alopecurus pratensis	4	3-7
Arrhenatherum elatius	2	2-4
Bromus mollis	1	1
Dactylis glomerata	5	2-6
Festuca pratensis	3	2
Festuca rubra	4	3-5
Holcus lanatus	2	3
Hordeum secalinum	1	2
Lolium perenne	5	4-7
Phleum pratense	2	2-5
Poa annua	1	1
Poa pratensis	3	3-5
Poa trivialis	3	2-5
Trisetum flavescens	2	3

Rough grass areas - of lower botanical diversity

Grasses	**Frequency**	**Range**
Alopecurus pratensis	5	6-8
Arrhenatherum elatius	4	5-8
Dactylis glomerata	4	2-5
Festuca rubra	4	1-4
Holcus lanatus	3	2-3
Hordeum secalinum	1	5
Lolium perenne	2	4
Poa pratensis	4	1-4
Poa trivialis	2	3-4
Trisetum flavescens	1	2

Flora especially trees and flowers (with list of species)

Flora

Vascular plants: It appears that no detailed botanical surveys have been undertaken on the site. A site survey was undertaken in early May 1996 for this management plan (detailed records are given in Appendix 1). Other casual records were made in April and July of the same year. Around 60 species have been recorded, none of national importance, though a single specimen of Black Poplar (*Populus nigra*) on the north-east boundary of the site is of note.

Much of the botanical interest is associated with the river banks and old ditch lines where species such as water dock meadow rue and cuckoo flower persist.

In several areas there are a number of notifiable weeds: ragwort, broad-leaved dock, spear and creeping thistle. If it is deemed that these are seriously affecting surrounding agricultural land (i.e. spreading), then by virtue of the 1959 Weeds Act, the Ministry for Agriculture, Fisheries and Food (MAFF) can serve notice to the occupiers and request that the species identified be removed.

Also worthy of conservation management are the ancient willow pollards. If left untouched, they will become top heavy and split apart, diminishing invertebrate and bird interest and making the site unsafe for visitors. In order to prolong the life of the pollard and maintain conservation interest the trees should be re-pollarded. Re-pollarding old and neglected trees can result in the death of the tree. Nonetheless, it is worth undertaking, particularly with willow. When re-pollarding trees that have been neglected, success may be greater if one or two of the major upright branches or a few of the smaller ones are retained in the first round of pollarding (Kirby 1992).

Species recorded 27th June 1996 Hurst Meadow

Plants recorded on the margin of the mill-stream

Agrostis stolonifera	Common Bent
Cynosurus cristatus	Crested Dogs-tail
Elymus repens	Common Couch
Phalaris arundinacea	Reed Canary grass
Achillea millefolium	Yarrow
Epilobium hirsutum	Great Willowherb
Galium verum	Ladies Bedstraw
Hordeum murinum	Wall Barley
Lactuca serriola	Prickly Lettuce
Lotus corniculatus	Birds-foot Trefoil
Lycopus europeus	Gypsywort
Myosotis scorpioides	Water Forget-me-not
Rorippa amphibia	Great Yellow-Cress
Rosa canina	Dog Rose
Scrophularia auriculata	Water Figwort
Sisymbnum officinale	Common Comfrey
Solanum dulcamara	Bittersweet

Plants found along margin of Buck Pool

Angelica sylvestris	Wild Angelica
Epilobium hirsutum	Great Willowherb
Glyceria fluitans	Floating Sweet grass
Lycopus europaeus	Gypsywort
Mentha aquatica	Water Mint
Myosotis scorpioides	Water Forget-me-not
Nuphar lutea	Yellow Water Lily
	Bittersweet

Solanum dulcamara	Branched Bur-Reed
Sparganium erectum	Meadow Rue
Thalictrum flavum	Water Speedwell
Veronica scutellata	

Along River Thame - NW of Buck Pool

Geranium pratense	Meadow Cranesbill
Glyceria fluitans	Floating Sweet grass
Iris pseudacorus	Yellow Iris
Lycopus europaeus	Gypsywort
Lythrum salicaria	Purple Loosestrife
Myosotis scorpioides	Water Forget-me-not
Rorippa amphibia	Great Yellow-cress
Rorippa nasturtium- aquaticum	Watercress
Sagittaria sagittifolia	Arrow-head
Scirpus lacustris	Bulrush
Scrophularia auriculata	Water Figwort
Sparganium erectum	Branched Bur-Reed
Stachys palustris	Marsh Woundwort
Symphytum orientale	White Comfrey
Veronica beccabunga	Brooklime
Veronica scutellata	Water Speedwell

Dicotyledons	**Frequency**	**Range**
Capsella bursa-pastoris	1	1
Cerastium holosteoides	1	4
Cirsium arvense	2	3-5
Cirsium vulgare	2	2
Convolvulus arvensis	1	6
Geranum dissectum	4	1-4
Plantago major	1	2
Potentilla reptans	2	2
Ranunculus acris	3	2-7
Ranunculus bulbosus	3	2-4
Ranunculus repens	2	3-5
Rumex acetosa	1	3
Rumex crispus	1	1
Senecio jacobaea	1	3
Sonchus asper	1	2
Taraxacum officinale	4	1-3
Trifolium pratense	1	4
Trifolium repens	2	2-5
Veronica serpyllifolia	1	1

Dicotyledons	**Frequency**	**Range**
Anthriscus sylvestris	3	3-4
Angelica sylvestris	1	1
Cirsium arvense	3	3-5
Convolvulus arvensis	1	2
Galium aparine	3	1-3
Geranium dissectum	3	1-3
Ranunculus bulbosus	1	2
Ranunculus pratensis	1	2
Ranunculus repens	1	3

Rumex crispus	1	2
Taraxacum officinale	1	1
Urtica dioica	2	2-3

Other species recorded

Alliana petiolata	Garlic Mustard
Bellis perennis	Daisy
Chenopodium album	Fat Hen
Glechoma hederacea	Ground Ivy
Leucanthemum vulgare	Ox-eye Daisy
Matricaria matricarioides	Pineapple Weed
Myosotis arvensis	Field Forget-me-not
Pastinaca sativa	Wild Parsnip
Picris echioides	Prickly Oxtongue
Plantago lanceolata	Ribwort Plantain
Rumex hydrolapathum	Water Dock
Rumex obtusifolius	Broad-leaved Dock
Taraxacum officinale	Dandelion
Tragopogon pratensis	Goats Beard
Veronica chamaedrys	Germander Speedwell
Veronica serpyllifolia	Thyme-leaved Speedwell
Vicia sativa	Common Vetch