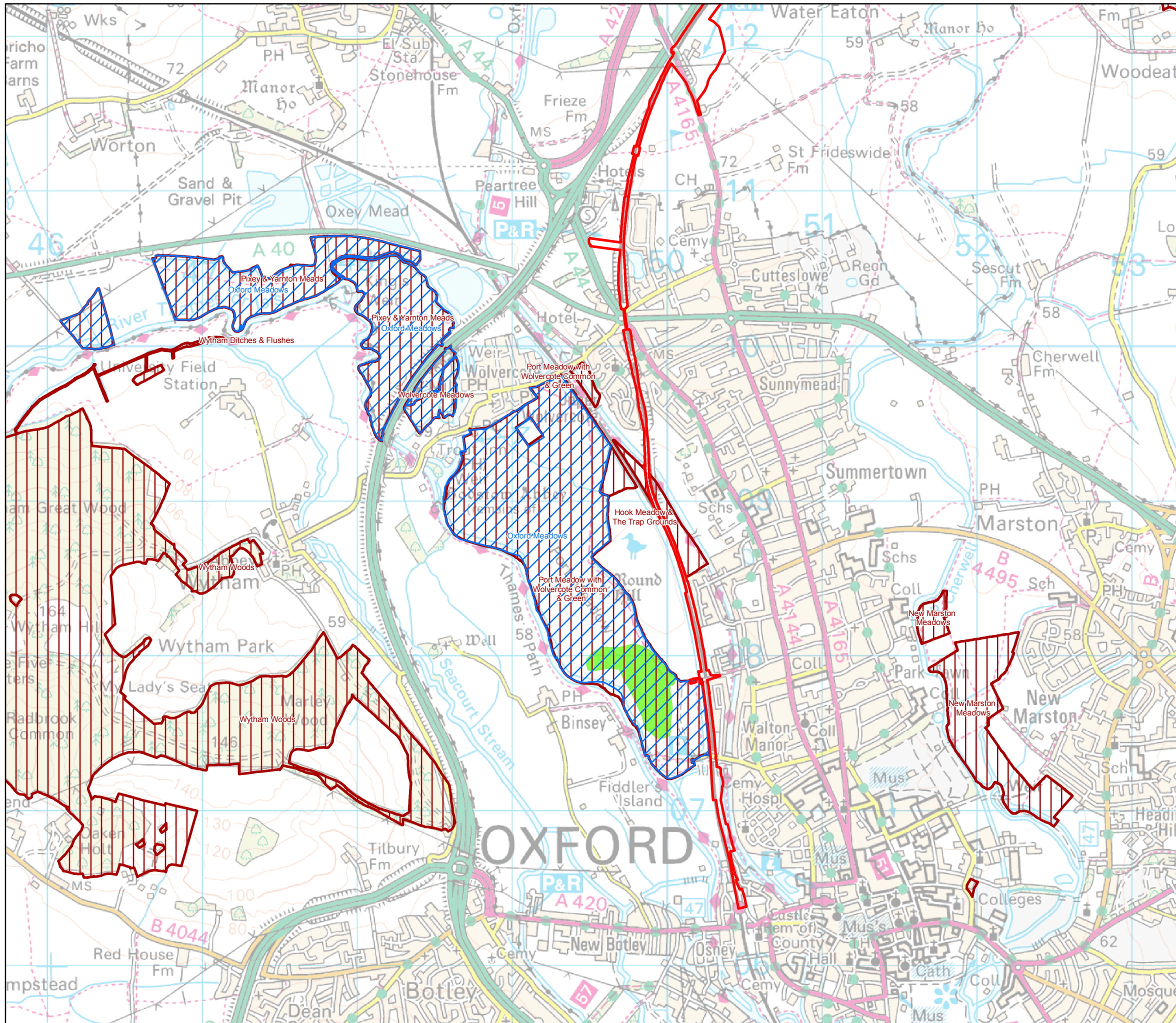
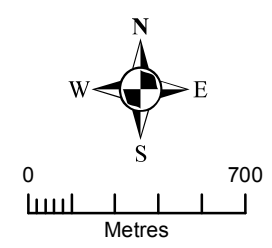


Appendix ASC 2

**Oxford Meadows SAC  
Location Plan and  
SAC/SSSI Citations**



- KEY:
- Scheme Boundary
  - Area where Apium repens (creeping marshwort) has been confirmed, or contains habitat suitable for this species to occur
  - Special Area of Conservation
  - Sites of Special Scientific Interest



TITLE:  
**Figure 1**  
**Ecological Sites Near Oxford**

CLIENT: **Chiltern Railways**      SIZE: **A3**

DATE: 06/08/2010	CHECKED: SL	PROJECT: 0094441
DRAWN: FS	APPROVED:	SCALE: As Scale Bar
DRAWING: Figure1_NO2_OM_2005.mxd		REV: 0

**ERM**  
 Eaton House  
 Wallbrook Court  
 North Hinksey Lane  
 Oxford OX2 0QS  
 Telephone: 01865 384800  
 Facsimile: 01865 204982

SOURCE: Reproduced from Ordnance Survey digital map data. © Crown copyright. All rights reserved. 2009 License number 0100031673. English Nature, 100017954 (2009)  
 PROJECTION: British National Grid

File: 0094441\ChilternGIS\_LRM\MAPS\Response to NE Enquiries\Figure1\_NO2\_OM\_2005.mxd

# NATURA 2000

## STANDARD DATA FORM

FOR SPECIAL PROTECTION AREAS (SPA)  
FOR SITES ELIGIBLE FOR IDENTIFICATION AS SITES OF COMMUNITY IMPORTANCE (SCI)  
AND  
FOR SPECIAL AREAS OF CONSERVATION (SAC)

### 1. Site identification:

1.1 Type  1.2 Site code

1.3 Compilation date  1.4 Update

1.5 Relationship with other Natura 2000 sites

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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1.6 Respondent(s)

1.7 Site name

### 1.8 Site indication and designation classification dates

date site proposed as eligible as SCI	199506
date confirmed as SCI	
date site classified as SPA	
date site designated as SAC	

### 2. Site location:

#### 2.1 Site centre location

longitude	latitude
01 17 12 W	51 46 37 N

2.2 Site area (ha)  2.3 Site length (km)

#### 2.5 Administrative region

NUTS code	Region name	% cover
UK523	Oxfordshire	100.0%

#### 2.6 Biogeographic region

  
Alpine

  
Atlantic

  
Boreal

  
Continental

  
Macaronesia

  
Mediterranean

### 3. Ecological information:

#### 3.1 Annex I habitats

Habitat types present on the site and the site assessment for them:

Annex I habitat	% cover	Representativity	Relative surface	Conservation status	Global assessment
Lowland hay meadows ( <i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i> )	40	B	B	B	A

### 3.2 Annex II species

Species name	Population			Site assessment				
	Resident	Migratory			Population	Conservation	Isolation	Global
	Breed	Winter	Stage					
<i>Apium repens</i>	Present	-	-	-	A	A	A	A

## 4. Site description

### 4.1 General site character

Habitat classes	% cover
Marine areas. Sea inlets	
Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins)	
Salt marshes. Salt pastures. Salt steppes	
Coastal sand dunes. Sand beaches. Machair	
Shingle. Sea cliffs. Islets	
Inland water bodies (standing water, running water)	
Bogs. Marshes. Water fringed vegetation. Fens	
Heath. Scrub. Maquis and garrigue. Phygrana	
Dry grassland. Steppes	
Humid grassland. Mesophile grassland	87.0
Alpine and sub-alpine grassland	
Improved grassland	13.0
Other arable land	
Broad-leaved deciduous woodland	
Coniferous woodland	
Mixed woodland	
Non-forest areas cultivated with woody plants (including orchards, groves, vineyards, dehesas)	
Inland rocks. Scree. Sands. Permanent snow and ice	
Other land (including towns, villages, roads, waste places, mines, industrial sites)	
<b>Total habitat cover</b>	<b>100%</b>

### 4.1 Other site characteristics

<p><b>Soil &amp; geology:</b> Alluvium, Clay, Neutral</p> <p><b>Geomorphology &amp; landscape:</b> Floodplain, Lowland</p>
--

### 4.2 Quality and importance

<p>Lowland hay meadows (<i>Alopecurus pratensis</i>, <i>Sanguisorba officinalis</i>)</p> <ul style="list-style-type: none"> <li>for which this is considered to be one of the best areas in the United Kingdom.</li> </ul> <p><i>Apium repens</i></p> <ul style="list-style-type: none"> <li>for which this is the only known outstanding locality in the United Kingdom.</li> <li>which is known from 15 or fewer 10 x 10 km squares in the United Kingdom.</li> </ul>
---

### 4.3 Vulnerability

The special interest of the site is critically dependent upon groundwater levels and annual flooding, and the site is very sensitive to changes in groundwater levels. Several of the component parts are dependent upon traditional hay-cutting and aftermath grazing. ESA payments provide financial support for this management. Gravel extraction is taking place adjacent to one of the component parts. Safeguards and monitoring are in place to minimise the risk of damage to the site due to groundwater changes arising from this activity.

Port Meadow is registered Common Land with common grazing rights administered by the Freemen of Oxford and Wolvercote Commoners' Committee. Stocking levels are high and grazing takes place throughout the year. The impact of this high grazing pressure upon *Apium repens* is under investigation as part of a wider programme of research into the ecology of the species. At present, it is thought that *A. repens* is tolerant if not dependent upon this management regime. Groundwater levels and flooding events on Port Meadows are monitored, as is the distribution of *A. repens* on the site.

## 5. Site protection status and relation with CORINE biotopes:

### 5.1 Designation types at national and regional level

Code	% cover
UK04 (SSSI/ASSI)	100.0



*Potentilla anserina*, and species with a low growth habit or vegetative reproduction, including common daisy *Bellis perennis* and creeping bent *Agrostis stolonifera*.

OVER/

A study of the vegetation in the late 1980s revealed seven main plant groups on the common pasture. The distribution pattern of these is related to differences in inundation by floodwater, past influence in the control of river levels, and grazing densities.

The pasture on Port Meadow and Wolvercote Common can be divided into four main regions. The first is the raised area at the southernmost end of Port Meadow where there are two types of grassland on soils influenced by leachates from tipped material below. On the flat, rarely flooded, ground to the east is a *Lolium perenne*-*Poa pratensis* recreational grassland sown in 1968. The humpy ground to the west supports a more species-rich sward of the *Festuca rubra*-*Agrostis stolonifera*-*Potentilla anserina* type. Both these communities include stinging nettle *Urtica dioica*, ragwort *Senecio jacobaea* and other species associated with the high phosphate levels and poaching which occur with very heavy grazing, especially in winter when other land is unavailable. There is a steep bank down to the lowest part of Port Meadow where a narrow band of sharp dock *Rumex conglomeratus* marks the edge of the flood-line.

The second region is the lowest part of Port Meadow where a *Mentha aquatica* variant of the *Agrostis stolonifera*-*Alopecurus geniculatus* grassland is characterised by creeping and low growing species which spread rapidly over gaps caused by poaching. Flooding is frequent, especially in winter, and grazing commences as soon as the water table falls below ground level. Many species present such as creeping bent, silverweed and marsh foxtail *Alopecurus geniculatus* are tolerant of flooding. Together with floating grass *Glyceria fluitans*, water mint *Mentha aquatica*, water forget-me-not *Myosotis scorpioides* and articulated rush *Juncus articulatus*, they form a sward which supports species such as marsh arrowgrass *Triglochin palustris*, water dropwort *Oenanthe fistulosa* and marsh bedstraw *Galium palustre*. This community grades into a *Festuca rubra*-*Agrostis stolonifera*-*Potentilla anserina* grassland on the slightly higher ground to the west and north. The latter community reflects disturbance by the hooves of grazing animals especially in winter and periodic flooding.

The third region is an intermediate one comprising wet pasture characterised by tufted hair-grass *Deschampsia cespitosa*, hairy sedge *Carex hirta* and an abundance of strawberry clover *Trifolium fragiferum*. It is more species-rich and lies in the centre of Port Meadow with outliers where gravel extraction has lowered the ground level and the water table is relatively high. It has been invaded by creeping thistle *Cirsium arvense* and is a variant of the *Lolium perenne* sub-community of the *Festuca rubra*-*Agrostis stolonifera*-*Potentilla anserina* grassland.

The fourth region is the highest and the driest part of Port Meadow and Wolvercote Common where the pasture is an unusual variant of the *Cynosurus cristatus*-*Centaurea nigra* grassland normally associated with hay meadows and pasture. The community has a mixture of species with different tolerances to light, moisture and base-richness and has all of the species normally associated with this community, together with lady's bedstraw *Galium verum*, hoary plantain and yarrow *Achillea millefolium*. True meadow species are suppressed by the permanent grazing. The wetter areas are characterised by woolly thistle *Cirsium eriophorum*, sorrel *Rumex acetosa*, meadow foxtail *Alopecurus pratensis* and silverweed, while rough hawkbit *Leontodon hispidus*, lesser yellow trefoil *Trifolium dubium*, yellow oatgrass *Trisetum flavescens* and dwarf thistle *Cirsium acaule* have colonised the higher areas with base-rich soils subject to summer drought. Creeping thistle and ragwort have invaded this region since the 1950s.

Some of this variation is directly related to the differential colonisation of silted up Bronze Age and Iron Age burial and settlement ditches. For example, creeping buttercup *Ranunculus repens* grows in a ring-ditch surrounding a slight barrow supporting meadow buttercup *R. acris* on the sides and bulbous buttercup *R. bulbosus* on the top.

Despite the generally low species-diversity of Port Meadow compared with adjoining hay fields a total of 178 flowering plants have been recorded. These include the Red Data Book species creeping marshwort *Apium repens*, for which Port Meadow is now the only site in Britain. It occurs scattered throughout the wettest parts and has a population estimated at between 50 and 100. Other plants of note include tasteless water pepper *Polygonum mite*, a species with a sparse distribution nationally, round-fruited rush *Juncus compressus*, which is very uncommon in Oxfordshire, and mudwort *Limosella aquatica*, which has a declining British distribution.

Port Meadow has been used extensively for teaching and plant evolution studies, and represents a considerable resource for plant breeding purposes. Research has been conducted on the influence of management on buttercup evolution, on the hybridisation of grasses in long-established grasslands, and on weed ecology. The site provided parent material used in

breeding the S23 variety of perennial ryegrass; other species present, by virtue of the consistent management practised, may provide sources of the persistency considered desirable in agricultural leys and flood pastures.

The site can support large numbers of birds during winter floods, with over 1,000 wigeon and 1,000 snipe recorded in recent years. Other regular visitors are teal, pintail, shoveler and large flocks of lapwing.

**COUNTY:** OXFORDSHIRE

**SITE NAME:** PIXEY AND YARNTON MEADS

**Status:** Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981

**Local Planning Authorities:** Cherwell District Council

**National Grid Reference:** SP480105

**Ordnance Survey Sheet 1:50,000:** 164 **1:10,000:** SP41 SE, SP40 NE

**Date Notified (Under 1949 Act):** 1955 **Date of Last Revision:** 1977

**Date Notified (Under 1981 Act):** 1986 **Date of Last Revision:**

**Area:** 85.6 ha 211.5 ac

**Other information:** Formerly notified with Port Meadow. Part of the site is registered as Common Land (CL71). Described in a Nature Conservation Review. English Nature has a small freehold interest in Pixey Mead.

### **Description and Reasons for Notification**

These unimproved floodplain meadows on alluvium over calcareous gravel on the first terrace bordering the River Thames are internationally renowned. They are amongst the best remaining examples of neutral grassland in lowland England.

The documentation of past management is particularly good. It is known that the meadows have been cut annually for hay and the aftermath grazed for well over a thousand years. This regime has produced botanically rich grassland. The type which occupies the largest area is characterised by cuckoo flower *Cardamine pratensis* with bird's-foot trefoil *Lotus corniculatus*, oxeye daisy *Leucanthemum vulgare*, adder's tongue *Ophioglossum vulgatum*, the local meadow dandelions *Taraxacum subundulatum* and *T. fulgidum*, the marsh orchid *Dactylorhiza incarnata*, devil's-bit scabious *Succisa pratensis*, greater burnet *Sanguisorba officinalis* and the grasses sweet vernal *Anthoxanthum odoratum*, soft brome *Bromus hordeaceus*, meadow and red fescues *Festuca pratensis* and *F. rubra*, quaking grass *Briza media*, Yorkshire fog *Holcus lanatus*, rye grass *Lolium perenne* and glaucous sedge *Carex flacca*. The notable plants, green-winged orchid *Orchis morio*, autumn crocus *Colchicum autumnale*, saw-wort *Serratula tinctoria*, pepper saxifrage *Silaum silaus* and meadow rue *Thalictrum flavum* also occur in a list of at least 150 species. Other meadow grassland communities recognised include that characterised by yellow rattle *Rhinanthus minor* with meadow vetchling *Lathyrus pratensis*, another on the drier river dredgings along the bank where meadow brome *Bromus commutatus* and cowslips *Primula veris* occur and a fen type with common reed *Phragmites australis*, meadowsweet *Filipendula ulmaria*, common sedge *Carex nigra* and marsh marigold *Caltha palustris*. The watercourses surrounding the Meads have tall emergent vegetation frequented by dragon and damselflies, the most noticeable throughout the summer being the banded demoiselle *Calopteryx splendens*.

The Meads have been the subject of detailed botanical research and hydrological investigation. Material is collected regularly for agricultural plant breeding purposes. The meadow flora has been compared with that of Port Meadow, where the contrast with a constantly grazed sward provides valuable information for investigating different grassland management systems.

**COUNTY:** OXFORDSHIRE

**SITE NAME:** WOLVERCOTE MEADOWS

**Status:** Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981

**Local Planning Authorities:** Oxford City Council

**National Grid Reference:** SP484096

**Ordnance Survey Sheet 1:50,000:** 164      **1:10,000:** SP40 NE

**Date Notified (Under 1981 Act):** 1986      **Date of Last Revision:**

**Area:** 9.2 ha 22.7 ac

**Other information:** Part of the land is owned by Oxford Preservation Trust.

### **Description and Reasons for Notification**

These meadows bordering the River Thames consists of unimproved and semi-improved neutral grassland which continued to be managed traditionally for hay and pasture and support a rich flora. Situated on alluvium overlying calcareous gravels, these meadows share many of the characteristics of the ancient meadowland of Pixey Mead, which borders the site to the west.

The largest of the three meadows, known as Great Baynham's Meadow, is managed as permanent pasture. Despite localised poaching by horses, the flora is rich with an abundance herbs such as ox-eye daisy *Leucanthemum vulgare*, meadowsweet *Filipendula ulmaria*, greater burnet *Sanguisorba officinalis*, pepper saxifrage *Silaum silaus*, devil's-bit scabious *Succisa pratensis*, adder's-tongue fern *Ophioglossum vulgatum* and at least eighteen species of wild grasses. The neighbouring meadows separated by willow-lined ditches are normally managed for hay with subsequent autumn grazing, a regime which produces a wealth of wild flowers in unimproved pastures during early summer. The flora is one of damp, somewhat calcareous soils dominated by tall cock's-foot *Dactylis glomerata* and Yorkshire fog *Holcus lanatus* grasses but with a diverse list of other meadowland grasses and herbs including at least eight species indicative of ancient grassland, such as sneezewort *Achillea ptarmica*. Parts of the meadow border on fenland conditions with species such as the common reed *Phragmites australis*, greater pond-sedge *Carex riparia*, hard rush *Juncus inflexus*, water forget-me-not *Myosotis scorpioides* and marsh. helleborine *Epipactis palustris*. The watercourses surrounding the meadows have tall emergent vegetation frequented by dragonflies, the most conspicuous of which is the banded demoiselle *Calopteryx splendens*.

**COUNTY:** OXFORDSHIRE

**SITE NAME:** CASSINGTON MEADOWS

**Status:** Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981

**Local Planning Authorities:** West Oxfordshire District Council

**National Grid Reference:** SP463101

**Ordnance Survey Sheet 1:50,000:** 164                      **1:10,000:** SP40 NE, SP41 SE

**Date Notified (Under 1981 Act):** 1 October 1993      **Date of Last Revision:**

**Area:** 7.03 ha 17.37 ac

### **Description and Reasons for Notification**

Cassington Meadows are a cluster of neutral hay meadows and fen, which are surviving remnants of semi-natural vegetation in an area now characterised by intensive arable farming and gravel extraction. This type of meadow grassland was once widespread in the Thames valley and other parts of lowland Britain, but is now a nationally threatened habitat largely restricted to a few areas in Oxfordshire, the Midlands and the Vale of York.

Situated adjacent to the River Thames, north-west of Oxford, the meadows lie on seasonally flooded alluvial soils overlying gravel. Two hay fields are largely a rare grassland type. They are dominated by grasses characteristic of old meadows such as meadow foxtail, crested dog's tail *Cynosurus cristatus*, sweet vernal grass *Anthoxanthum odoratum*, yellow oat grass *Trisetum flavescens* and meadow barley *Hordeum secalinum*. Amongst these, larger herbs characteristic of such swards include the great burnet *Sanguisorba officinalis*, pepper saxifrage *Silaum silaus*, meadowsweet *Filipendula ulmaria* and dropwort *F. vulgaris*. In spring, when the grass is still short, the smaller herbs such as adder's-tongue *Ophioglossum vulgatum*, bugle *Ajuga reptans* and cowslip *Primula veris* are more prominent.

The fen is of a type quite widespread in Oxfordshire, but largely restricted to small scattered patches. Reed sweet-grass *Phalaris arundinacea*, meadowsweet and lesser pond sedge *Carex acutiformis* are all common components of this habitat whilst marsh marigold *Caltha palustris*, yellow iris *Iris pseudacorus* and common meadow-rue *Thalictrum flavum* are abundant in places.

Many of the fen plants are found in the ditches where common frog also breeds. Mature hawthorn hedges surround parts of the site and crack willow trees *Salix fragilis* are common within the hedgerows and along the river bank.

