

COUNTY: OXFORDSHIRE

SITE NAME: OTMOOR

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

**Local Planning Authorities:** Oxfordshire County Council, South Oxon District Council, Cherwell District Council

**National Grid Reference:** SP575130

**Ordnance Survey Sheet 1:50,000:** 164 **1:10,000:** SP51

**Date Notified (Under 1949 Act):** 1952 **Date of Last Revision:** 1972

**Date Notified (Under 1981 Act):** 1988 **Date of Last Revision:**

**Area:** 211.6 ha 522.86 ac

**Other information:** Much of the site is an MOD firing range.

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

Otmoor is a large bowl-shaped area of land on the flood-plain of the River Ray to the east of Oxford. The area of special scientific interest represents the core of what was, until recent times, an extensive area of wetland which was flooded in winter and was traditionally managed as rough grazing marsh. Much of the land outside the special area has been drained and converted to arable or improved pasture. The site contains a wide range of habitats with many species of nationally uncommon plants and animals. Approximately half of the site is herb-rich damp grassland which grades into wet sedge and coarse grassland.

The whole site is underlain by Oxford clay; the soils are derived from river alluvium and are predominantly stoneless, and occasionally calcareous clays of the Fladbury 1 Series. On the southern edges of the site are fine loams of the Shabington series. Wetter areas of the site have a peat layer developed over the alluvium.

A series of grassland types are represented on Otmoor, ranging from coarse tussocky grassland dominated by tufted hair-grass *Deschampsia caespitosa* to a herb-rich sward. Most of the site supports neutral grassland, with local differences attributable to variation in soil type, peat cover and water levels. The more acidic soils contain plants such as purple moor grass *Molinia caerulea* while the calcareous influence is shown by the presence of upright brome *Bromus erectus*, dropwort *Filipendula vulgaris* and dyer's greenweed *Genista tinctoria*.

Herb-rich swards in the southern half of the site are largely of crested dog's-tail *Cynosurus cristatus*-black knapweed *Centaurea nigra* grassland. One field with a ridge and furrow topography is on the south-east corner of the site. The more freely draining soils have a rich flora with a local abundance of species indicative of unimproved neutral meadow, including betony *Stachys officinalis*, lady's bedstraw *Galium verum*, devil's-bit scabious *Succisa pratensis*, sneezewort *Achillea ptarmica*, saw-wort *Serratula tinctoria* and great burnet *Sanguisorba officinalis*. An unusual member of these swards is believed to be a hybrid between the heath dog violet *Viola canina* and fen violet *V. persicifolia*. The wetter areas within the herb-rich meadows contain a diverse flora of sedges including the uncommon tawny sedge *Carex hostiana* and flea sedge *C. pulcaris* and the nationally rare downy-fruited sedge *C. tomentosa*. Patches of sedge-dominated sward follow the flow of surface runnels with areas of greater pond sedge *C. riparia* swamp merging into canary reed-grass *Phalaris arundinacea* and meadowsweet *Filipendula ulmaria*. Other less common species present include meadow rue *Thalictrum flavum*, marsh valerian *Valeriana dioica*, tubular water-dropwort *Oenanthe fistulosa* and marsh stitchwort *Stellaria palustris*.

The grasslands of the northern half of the site contain a mosaic of coarse, tussocky tufted hair-grass grassland and patches of more diverse grassland on drier soils. The former includes false fox-sedge *Carex otrubae*, hard rush *Juncus inflexus*, lesser spearwort *Ranunculus flammula* and skullcap *Scutellaria galericulata*, whilst drier areas have a sward which includes crested dog's-tail, sweet vernal-grass *Anthoxanthum odoratum*, marsh foxtail *Alopecurus geniculatus*,

sneezewort, black knapweed and self-heal *Prunella vulgaris*. The northern-most fields consist of semi-improved grassland with red fescue *Festuca rubra*, tufted hair-grass, marsh foxtail and tufted forget-me-not *Myosotis laxa*, together with oval sedge *Carex ovalis*, compact rush *Juncus conglomeratus*, soft rush *J. effusus* and tubular water-dropwort in wetter areas.

#### OVER/

A woodland block forms part of the eastern boundary of the site. This is semi-natural pedunculate oak wood which has been established since 1840 on an old ridge and furrow system. It has a dense understorey of blackthorn which forms a substantial thicket along the western edge. A ride on the western side contains a mainly ruderal flora amongst which a number of meadow species survive including the nationally rare true fox-sedge *Carex vulpina* and greater burnet saxifrage *Pimpinella major*, on the edge of its range in Britain.

Several dense hedges are present throughout the site and most date back to the enclosure of Otmoor in the mid-nineteenth century. These consist predominantly of hawthorn and blackthorn together with mature pedunculate oak and crack willow.

Standing water habitats are well represented. The central area of the site regularly floods in winter and two shallow pools remain in most years. The pools and ditches are rich in submerged and emergent aquatic plants. Most contain stands of branched bur-reed *Sparganium erectum*, reed sweet-grass *Glyceria maxima*, bulrush *Typha latifolia*, water plantain *Alisma plantago-aquatica* and flowering rush *Butomus umbellatus*. Many of the ditches contain arrowhead *Sagittaria sagittifolia* swamp, with frogbit *Hydrocharis morsus-ranae*, fat duckweed *Lemna gibba*, ivy-leaved duckweed *L. trisulca* and the regionally uncommon fine-leaved water-dropwort *Oenanthe aquatica*. The largest pool, known as the Pill, is rich in uncommon aquatic species including water violet *Hottonia palustris* and bladderwort *Utricularia vulgaris*.

The invertebrate fauna of the site is diverse and contains many nationally and regionally uncommon species, including several listed in the British Red Data Book of Invertebrates. There are several species whose foodplants are found largely in unimproved meadowland. These include the sawfly *Hartigia xanthosoma* on meadowsweet, the buprestid beetle *Trachys troglodytes* and marsh fritillary butterfly on devil's-bit scabious, the longhorn beetle *Agapanthia villosiviridescens* on marsh thistle *Cirsium palustre* and the forester moth *Adscita statices* on sorrel *Rumex acetosa*. The blackthorn thickets contain large populations of the nationally restricted black hairstreak and brown hairstreak butterflies. This site has the only colony of marsh fritillary butterfly currently known in Oxfordshire, and represents the second most easterly station for this butterfly in Britain. Other regionally uncommon species present include the emperor moth *Saturnia pavonia*, the shield bug *Zicrona caerulea* and the longhorn beetle *Anaglyptus mysticus*. The ditches and pools contain several water beetles including *Agabus uliginosus*, *Enochrus isotae* and *Helophorus dorsalis*, while emergent vegetation and shallow water supports the reed-beetle *Donacia impressa*, and the hoverflies *Anasimyia transfuga* and *Parhelophilus frutetorum*. Other uncommon species recorded in recent years include the large soldier fly *Stratiomys potamida* and the dragonfly *Sympetrum sanguineum*.

Otmoor was once renowned as an outstanding site for overwintering wildfowl and waders. Although much of this interest has been lost due to drainage and agricultural improvement, the site is still of high regional value for birds with over sixty breeding species recorded in recent years. The wet grasslands in the northern half of the site are still regularly used by many species of overwintering and breeding waders and wildfowl. The wintering birds regularly include teal, wigeon, snipe, lapwing, golden plover and short-eared owl and, less frequently, merlin, hen harrier, marsh harrier, green sandpiper, jack snipe and stonechat. The scrub and grassland habitat provides nesting sites for many species of summer visitors with nightingale, grasshopper warbler and lesser whitethroat common in certain areas. Breeding waders include regionally important numbers of snipe, and there is also regular breeding by curlew and lapwing, and occasional use by redshank. Other vertebrates recorded include water shrew, badger and grass snake.