

The major interest of this large and complex site is the River Colne, which divides into branches known as the Wraysbury River and Fray's River in this part of its course. These rivers, which are mainly fed from the Chilterns, contain a diverse aquatic flora and fauna, including several plant species of restricted distribution in the London area. Associated with the river are strips of riverine willow woodland, a series of grazed and ungrazed wet meadows with a rich assortment of unusual wildflowers, and three wet gravel pits which are mainly of interest for their waterfowl.

The whole of the site lies on alluvium and river gravels which contain much chalk and flint material derived from the Chilterns. As a result, where the undisturbed soil remains, this is rather lime-rich, and a surprising number of plant species more characteristic of chalk soils are recorded. Much of the site has, however, suffered from gravel extraction and subsequent land fill with material derived from a variety of sources leading to a complex mosaic of landscapes, soil types and vegetation structures.

In the north of the site there are three river courses. The Fray's River, the most easterly channel, is shaded by trees in this section and has less aquatic vegetation than the other channels. Unbranched bur-reed, great yellow cress and fennel leaved pond weed are the main aquatic plant species. The Fray's River falls through two weirs to join the second river course, the Colne River, just to the north of Thorney Mill Road. Between these two rivers is a tongue of land with an unusual woodland, composed mainly of crack willows, plus a few alders and with much policeman's helmet

below; part of this area is to be managed as a nature reserve by the London Wildlife Trust. Further tall crack willows occur alongside the west bank of the Colne, but this river is largely unshaded and has abundant growths of yellow water lilies, whose submerged lettuce-like leaves carpet the bottom of the river. The banks are lined with a band of lesser pond sedge, bladder sedge, reedmace and reed sweet grass. Alongside some houses on the east bank exotic species of water plant have also been planted. These have already become established further downstream and could potentially become invasive weed species. The river is quite fast-flowing and has clean water in which shoals of fish such as dace and chub, typical of the middle reaches of lowland rivers, can be seen. In lower reaches the main fish species are roach, carp, bream and tench, while in the fastest sections barbel are present, in one of their few remaining localities in the London area. As a result of artificial stocking upstream a few salmon now return to the Lower Colne, and populations of migratory eels are also increasing. There is probably also a diverse aquatic invertebrate fauna, but only dragonflies are evident from a short visit. These include the riverine, banded demoiselle, which is very abundant, plus common blue damselflies and blue-tailed damselflies. Coots, mallard, kingfishers and grey wagtail breed here; the latter two bird species have restricted distributions in London.

The third water channel in this sector is a small stream traversing a meadow to the west of the Colne and feeding some gravel pits to the south. Aquatic vegetation here includes water cress and great yellow cress, star-wort and Canadian pondweed, and lesser water plantain abounds.

The meadow known as the Philglow Land or Mabey's Meadow has a history of disturbance and restoration which has left it with a complex of habitat types, several of which contain uncommon species such as common spotted and bee orchids, purple loosestrife and pendulous sedge.

The southern end comprises a very wet coarse grassland dominated in a patchwork by forin, hard rush, cat grass, false fox-sedge and creeping cinquefoil. Although disturbed in the past, this area has a scattering of interesting species, such as figwort, purple loosestrife, ox-eye daisy and smooth tare. A disturbed and tipped area in the centre of the meadow is covered by a typical wasteland flora grading into coarse grassland and scrub; lady's bedstraw and a variety of garden escapes can be found here. Coarse grassland occurs again along the western edge and the north end of the meadow, and contains bee orchid and kidney vetch, uncommon plants in this part of London and more usually associated with chalk.

Along the edges of the river and in patches and tongues elsewhere in the meadow is woodland and scrub of crack willow, goat willow, ash, hawthorn, sycamore and elder. In places this has a rich wetland ground flora with sedges including false fox-sedge and pendulous sedge. A dense stand of great hairy willow-herb and nettle abuts this in one place - a spectacular sight when the willowherb is in flower. Nearby is a similarly dense and tall community, this time of reed canary-grass with a little bramble, comfrey and great hairy willow-herb. Near the bend in the river are small areas of pasture heavily grazed by rabbits, and possibly remnants of the original riverside habitat.

Where the Colne passes under the road south of the Philglow Land it runs through a disused water mill where hart's-tongue fern sprouts profusely from the water-wheel supports. The Frays and Colne rivers then unite for a short distance before diverging once more, into the westerly Wraysbury River and the more easterly River Colne.

The Wraysbury River flows leisurely through the remainder of the site before disappearing through a concrete culvert under the M25 and out of London. This stretch of river is remarkable for its abundance and diversity of aquatic vegetation. Within the river itself river water dropwort dominates and almost chokes the channel in summer with its lush green trailing submerged shoots and feathery emergent stems bearing clusters of small white flowers. This is a scarce and

decreasing plant in Britain, being found in only 79 ten-kilometre squares throughout the country (Perrins and Walters, 1982), and is restricted to the Colne and one other river in the London area. Where the water current is swifter water crowfoot replaces the river dropwort as the main submerged species. Additional submerged species include unbranched bur-reed and arrowhead, both of which have long strap-shaped submerged leaves, and the pale green clump-forming starwort. Great yellow cress forms beds of emergent vegetation within the river course and at the margins where there is an almost continuous fringe composed of reed sweet grass, reed canary grass, sedges, branched bur-reed, yellow flag, reedmace, water plantain and great water dock.

The Colne River is similar floristically but is swifter flowing and more shaded by trees. Water crowfoot and unbranched bur-reed are more frequent, river water dropwort is less abundant, and the reed fringe is often lacking

or poorly developed. Pollarded crack willows line the banks in places and provide breeding places for hole-nesting birds, including, possibly, the many jackdaws present in the area.

Three gravel pits lie close to the rivers and are included in the site mainly for their ornithological interest, but they also have some floristic value. The two northerly pits lying to the west of the river are older and have a more mature vegetation than the pit lying between the two rivers further downstream. These are now used for angling, and are stocked with carp, some of which are enormous. The banks are rather steep, so the aquatic vegetation is fairly limited in extent and comprises a few clumps of floating yellow water lilies and amphibious bistort, plus some marginal sedges, rushes and bur-reed. Great crested grebes nest successfully on the lakes which are probably also used by wintering waterfowl. A hedge along the southern boundary of the pits contains a number of shrub species, such as guelder rose, privet and buckthorn, characteristic of chalk soils. Further chalk grassland species occur alongside a track leading to the pits from the south-west, where hoary plantain, wild carrot and grass vetching occur in an otherwise rather uninspiring grassland sward.

The only aquatic vegetation in the more southerly pit is a narrow fringe of soft rushes along the steep banks. The open water is filled with masses of the strap shaped alga *Enteromorpha*, which forms the food supply for the coots, mallard and swans which are present on the lake. Dabchicks breed in this pit. To the north the pit is bounded by a steep, nettle-covered bank, while to the south is a damp silt lagoon which is becoming invaded by reedmace, water speedwell, great hairy willow-herb, toad rush, osiers and a variety of wasteland species. Rabbits abound in this area.

In the extreme south of the site another rabbit grazed area of disturbed land is

included for its unusual flora, which includes bee orchid, false fox sedge and hairy sedge, creeping cinquefoil, red bartisia and a wide variety of wasteland species. Butterflies are abundant in this meadow and numerous yellow and black banded caterpillars of the cinnabar moth were present on the ragwort when the site was visited in 1987. Birds breeding in the meadow and the surrounding scrub and hedges include linnet, whitethroat, yellowhammer, willow warbler and turtle dove.

The final area included in the site is a meadow, lightly grazed by horses, just south of the M4 motorway. This is not of Metropolitan value in its own right, but usefully complements the other habitats on the site. A variety of grasses including timothy, Yorkshire fog, cocksfoot, wavy hair grass, crested dog's tail, meadow grasses and fescues makes up the sward, which also has a range of herbs such as buttercups, ox-eye daisy, birdsfoot-trefoil, meadow-sweet, lady's smock and silverweed; the latter three are typical of damp meadows. The rare and colourful musk thistle is also present, this being a species restricted in the London area to the chalk downs, such as Coppermill, and a few other sites in the Colne Valley.

Parts of the Wraysbury and Colne rivers can be viewed from a footpath which runs from Mill Road, near the north of the site, to Mad Bridge, near the south. The Borough hopes to provide access on foot through the Philglow land as well.

