

Biodiversity Surveys of Land at the Triangle adjacent to Stratfield Brake East Woodland

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For Friends of Stratfield Brake

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*Triangle northern ride flowers and central area with Osier coppice and Common Fleabane
in flower 12.08.2023 and 29.08.2023*

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Summary

- Results are presented of species survey visits to the Triangle site from Late June 2023 to December 2024. This is an update to my first report in August 2023.
- Considerable biodiversity of plants (135sp.) and invertebrates (264 sp.) so far was found, including a small number of uncommon to rare species; although these surveys report only a small proportion of the total invertebrate biodiversity which might be expected here, with further work using different collection methods.
- Thick species-rich marginal scrub and woodland belts with mature trees surround the central area planted up with Osier willows, harvested annually in blocks for fencing, and with wide mown access rides, provide a valuable combination providing a diverse **mosaic of habitats** beneficial to overall biodiversity.
- The willow (Osier) coppice is not a monoculture, generates only light shade and has temporary glades resulting from willow cutting, so there is a complete rich diverse ground flora under all the blocks as well as in glades and the rides. Willow deadwood is abundant hosting a rare bracket fungus and 11 saproxylic (deadwood breeding) beetle species are found so far.

- The very winter-wet (often flooded) heavy clay soil has developed a specific flora of a number of marsh or wetland plants adapted to the soil being inundated in winter and completely dried-out in summer.
- A history of much groundwork for a motorcycle track, rubble piles and regular ground disturbance from coppicing machinery gives regular bare ground and temporary pool creation allowing early successional stage communities around willows, generating a habitat which resembles Open Mosaic Habitat on Previously Developed Land (OMHPDL) and some Neutral Grassland
- The most abundant wetland plant on site is a vast population of Common Fleabane with golden daisy-type flowers in many thousands in mid-August which feed many pollinator insects.
- Eight insects of Conservation Status were found one of which is a rare fly which breeds in the Fleabane.
- A number of uncommon wild roses are present on site with a probable rare hybrid.
- Very good numbers of common butterflies are found, with the breeding presence of rare Priority Species Brown Hairstreak Butterfly confirmed.
- Priority Bat Species Soprano Pipistrelle and Noctule are confirmed as using the site for foraging. Other Priority Species present are Common Toad and Harvest Mouse with visiting Grasshopper Warbler (on UK bird Red List).
- The willow (Osier) coppice supports dependent insects, some of them (willow beetles) in vast numbers, which will provide much food for insectivorous birds.
- The Triangle habitats support and connect via mobile species (like deadwood-breeding beetles) to the Ancient Woodland Priority Habitat (Cherwell District Wildlife Site) of Stratfield Brake, the east section of which is contiguous with the southern margin of the Triangle.

Introduction

I am an experienced Independent Freelance Ecologist who has lived in Kidlington since 1984. I have been employed on species survey work in Oxfordshire by Natural England, BBOWT, Oxford City Council, private landowners and Local Wildlife Groups. I am very familiar with the habitats in the general Stratfield Brake area, especially the hedgerows and verges (I have assisted in botanical verge survey of Frieze Way with a local Natural History Society). I and my family helped plant trees in the new Woodland Trust woodland at Stratfield Brake west section in the 1990s. My particular expertise is identification of plants, invertebrates and fungi. I have 45 years of experience of the first group and 30 years of experience in identifications of the other groups. I am a regular voluntary species recorder in these groups for Thames Valley Environmental Records Centre (TVERC).

I received permission to enter The Triangle and record species from the tenant who runs the sustainable willow coppice business.

Aim

To catalogue as much of the biodiversity present on site as possible, considering it is to be subject to a development application for a proposed football stadium. The main focus was plants, invertebrates and fungi, but all groups were recorded as skill allowed. I participated in a bat recording walk with a local bat expert and a hand held recorder on 22.09.2023. A much richer invertebrate biodiversity will be found with further surveys using a greater variety of recording methods.

Visits

From summer 2023 to the end of 2024 visits were carried out on the following dates:

25.06.2023
08.07.2023
27.07.2023
06.08.2023
12.08.2023
19.08.2023
07.09.2023
22.09.2023 bat recording survey with hand-held detector
23.09.2023
01.10.2023
11.12.2023
17.02.2024
06.05.2024
11.05.2024
25.05.2024
09.06.2024
23.06.2024
14.07.2024
04.08.2024
10.08.2024 moth trapping – light trap
16.08.2024
29.08.2024 moth trapping – light trap

All mid-year visits were in warm, sunny conditions, ideal for recording flying insects. Between one and three hours were spent on site at each visit. For insects, all the rides and scrub margins were visited and swept with long-handled net and shallow water pools were sampled with a dip net. These were the main methods apart from hand searching and photography. All photographs within this report are my own from the site apart from where indicated. Willow coppice blocks were walked through and swept as was the northern fenced off scrub area. The hedgerows/belts of trees and scrub on the west and east margins were viewed from outside on roads and from the inside of the Triangle, but not entered, due to the difficulty of access; mostly plant species were recorded in these marginal areas.

Several site visits in summer are usually sufficient to locate the vast majority of all plant species on site, but are inadequate to assess the full invertebrate biodiversity present. Four or five visits spaced throughout the year in good weather and using a variety of trapping methods are necessary to have a reasonable assessment of invertebrate biodiversity. The invertebrates found in the current surveys will be only some of the very many species which probably live there. Many more are to be expected by surveys using additional methods such as pitfall-trapping, suction-sampling, rearing from fungi and deadwood, use of pheromone lures and light-trapping for moths.

The Triangle, History and Habitats present

This triangular plot of land (just under 5 hectares, central Grid Ref. SP4986 1206, see Figure 1 below) is in the **Green Belt** and is bounded to the south by a strip of Ancient Woodland (termed here

Stratfield Brake East, see my separate report on this) which was once connected to the Stratfield Brake main Ancient Woodland section (here termed **Stratfield Brake West**) on the west side of Frieze Way (A4260). This historic connection of the two woodland strips is obvious from examination of older maps of the area (1). The construction of Frieze Way must have bisected this Ancient Woodland, destroying a good chunk of its centre. That this southern woodland strip is Ancient Woodland is indicated for example by the large basal diameter old multi-trunked coppice stool oak trees and the dense population of native Bluebells present along with 18 other ancient woodland indicator plants in the ground flora. 'Stratfield Brake' (including both woodland sections either side of Frieze Way) is part of a designated Cherwell District Wildlife Site (DWS) Code 41V21, area 20.98ha. The Triangle currently is a valuable green buffer to this priority woodland habitat.

On the **western margin of the Triangle**, the open area is bounded by a thick belt of trees and scrub (shrubs) of 5-6m wide adjacent to the raised ground along which Frieze Way (dual carriageway) runs. Within this strip there is a drainage ditch plus one wooden fence and, in some places, two wire fences. **No street lighting is present along Frieze Way for most of its length, except near the roundabouts.**

On the **eastern margin of the Triangle** the open area is bounded by a thick belt of trees and scrub (shrubs) of 12-15m wide along the margin of the A4165 Oxford Road, which runs on raised ground. Within this marginal belt there are the remains of an old wooden fence plus two newer wire fences to the inside of this. For part of the distance a drainage ditch runs through this belt and in one place it widens out to a long wet hollow, which has standing water in winter. Street lighting is present along Oxford Road.

To the north, in the truncated 'point' of the Triangle, is a wire fenced-off section (approximately 0.46ha inside the marginal hedge/tree belts) which has developing diverse scrub (shrubs) inside thick hedge/tree belts, with five large Lombardy poplar trees (*Populus nigra* var *italica*) in the very northern margin just south of the roundabout. There is an area with dumped rubble just inside the fenced-off section, to the north of the access gate off Oxford Road. The ground slopes down gently from this north end adjacent to the roundabout, to the south end adjacent to Stratfield Brake East woodland.

The history of the Triangle area from personal observations since I moved to Kidlington in 1984 and some research is as follows:

It was an arable field in 1984 when I first knew it. Available historic aerial photographs from 1943- 4 (11) show that it has been arable for a very long time as the clear patterning of 'ridge and furrow' cultivation can be seen, these ridges and furrows from cultivation with ox/horse ploughs in the historic 'open field' farming system before the Enclosures of 17th and 18th Centuries.

In the late 1990s it was occupied by a **motocross track** which had constructed humps for motorcycle racing, but this track was closed when some rubble was dumped there.

The area of scrub (shrub-land) at the north end of the triangle was planted with ash trees in 2008 by the Oxfordshire Woodland Group with the aim of providing tree cover, wood fuel and eventually high quality ash timber (2) (It is not known what happened to majority of the ash but this area is now mixed shrubs (I estimate around 15years old), predominantly Common Hawthorn *Crataegus monogyna*, with few Ash *Fraxinus excelsior* and with some evidence of planting of species like Guelder Rose *Viburnum opulus*, Hazel *Corylus avellana* and Dogwood *Cornus sanguinea* (remains of tree tubes around bases). Just inside this fenced-off scrub area is a wooden plinth with a metal plate

inscribed with the comment that this area was ‘*woodland planting in memory of a friend and colleague RICHARD CURRY, 27.1.68 - 7.6.09*’.

A gas main and overhead power cables cross the Triangle just south of the northern fenced off area.

The willow coppice (Osier or Basket Willow) occupying blocks in the Triangle site centre (Short Rotation Coppice or SRC, harvested every 3-4years) was first planted around 2006, with the aim of producing wood fuel to heat a primary school (3).

Currently the willow coppice blocks are harvested in rotation several times a year (mostly winter) for construction of fencing by the land tenant as part of his ‘Wonderwood’ business. At any one time there are blocks of willow in all stages of re-growth (1-5 years old) from the coppice stools.

The willow species planted in blocks appears to be the fast growing Common Osier *Salix viminalis*, which has long narrow leaves and very upright growing stems, meaning the coppice stools can be planted quite closely and numerous straight long branches are produced. Because the willow has very upright branches, it casts only very light shade, so that a rich ground-cover flora has developed under and between the coppice stools. The willow coppice has occupied the site centre for just short of 18 years. Planted as a monoculture, it is no longer a single species habitat; the blocks having been extensively naturally invaded by a diversity of shrub species seen today.

Around and between the coppice willow blocks are wide access rides with herbaceous vegetation. These look as if they are annually cut short; this mowing will have helped to preserve the biodiversity of herbaceous flora as it is similar to meadow management. At the northern end a wider area (northern ride) is annually cut short running west-east. This wider open area is under the over-head cabling, maybe a ‘way leave’ that would have had to be left unplanted by willow to allow any access to the cabling for maintenance. This open area is also over the major gas main that supplies Yarnton.

When the coppice block sections have branches cut down to the coppice ‘bole’ a temporary open ‘glade’ is created which lasts until the willow grows up again. Thus open glade areas move around the site as willow sections are harvested. This temporary glade creation benefits overall biodiversity by stopping the willow becoming tall and over shading the ground; new glades providing warm sunny sheltered open areas for herbaceous plants (forbs) to flower and invertebrates to bask.

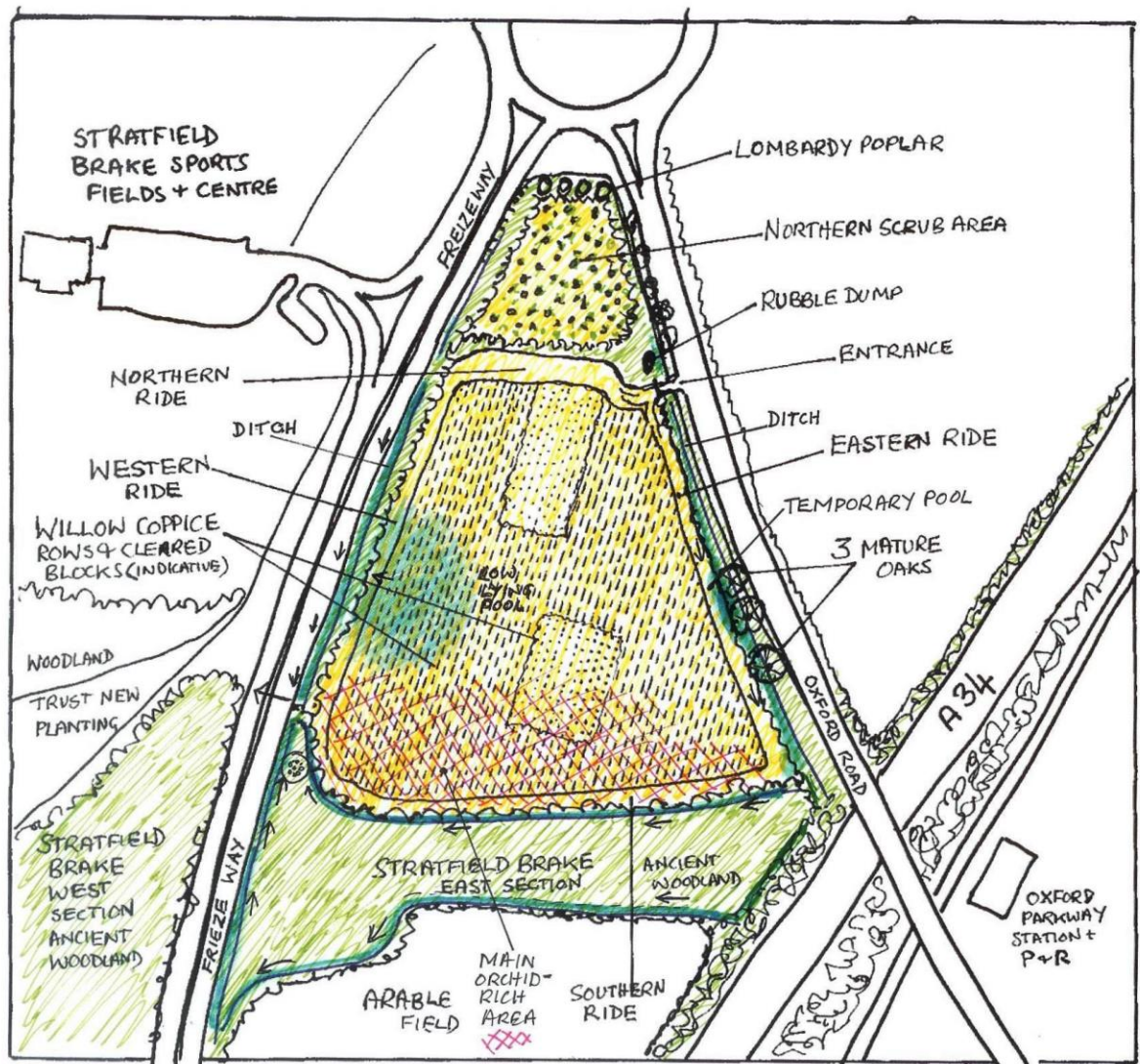


Fig 1. Sketch map of the Triangle and Habitats Present. Green shading is trees or larger shrubs including bramble. Yellow shading is willow coppice, mown flowery access rides and smaller diverse shrub species. Blue marks ditches and temporary pools.

Vegetation types (habitats) present today in the Triangle

- Marginal diverse mature shrub/tree belts and ancient woodland including wet ditches
- Young diverse, mostly naturally regenerating, scrub (some shrubs planted)
- Willow (Osier) coppice - mainly willow held at shrub stage by rotational cutting and featuring much deadwood
- Ground cover wetland herbaceous vegetation, partly shaded within the willow coppice blocks
- Grassy, sunny, flowery rides and temporary open glades with disturbed ground, bare ground, small temporary pools in full sun within willow coppice and around site margins. Possible wet version of Open Mosaic Habitat on Previously Developed Land (OMHPDL)
- Some more vegetated rides conform to wettish Neutral Grassland.

Soil and ground conditions within the Triangle area

During my surveys, the soil was observed to be very heavy clay, with evidence of much winter water-logging, which was abundantly confirmed in autumn, winter and spring 2023-2024 with flooding and

water pooling all over the site for four months (see photographs in the Appendix I). 2023-2024 was the wettest year and 18 months across England since records began in 1871 (National Hydrological Monitoring Programme) and with accelerating Climate Change, predictions are that such extreme flooding could be even worse in future with rain concentrated in winters and much less rain in summers. Winter water-logging is not a recent problem at this site, but a long-standing issue – as evidenced from aerial photos from 1943-4 in the USAAF collection (11) showing pooling of floodwater as white markings in patches and along old furrows. Historic ridges and furrows were obviously aligned to drain the site firstly towards the western margin and then southwards with ridges running towards the woodland. Recent attempts by Southern Gas Network to repair a gas leak from the main gas pipe to Yarnton which crosses under the site have been severely hampered by the extensive flooding and difficult ground conditions (see photo in Appendix I).

Summer visits revealed all the clay soil was dried hard and cracked in June, July and August. The ruts in the rides were full of mats of aquatic dried filamentous algae and of a sub-aquatic moss typical of very water-logged conditions. All indications are that the site functions ecologically as a **temporary wetland marsh habitat**. Plants indicating this are discussed below. Over the years, travelling on the bus to Oxford along the A4165 I have regularly observed the south west corner of the site, (just before the start of the bridge over the A34) to be badly flooded in winter with the hedge plants and a mature oak tree surrounded by standing water often for some weeks.

This winter water-logging has is prevalent despite the deep ditches which run all around the Triangle except on the northern section margins. These marginal ditches **are noted to receive road run-off at intervals** from east and west sides (Oxford Road and Frieze Way) compromising their ability to drain the site centre. Water collected by marginal ditches is drained offsite from the middle of the western margin under Frieze Way to Stratfield Brake West ditches.

Such regular very wet winter soil conditions are ideal for the growth of willows, which are, in the majority, wetland species which thrive in waterlogged soil.

Results of species surveying

Where possible, rough abundance or numbers of species was estimated. Invertebrate species were recorded by sweep-netting, dip-netting, hand collection and photography. I'm grateful for the help of more expert entomologists for some of the identifications. Plants, invertebrates and fungi found were the main focus, however 10 birds, six mammals and two amphibians were incidentally identified during my visits and I am grateful for the assistance of Andy Pedley with his aural bat detector on a site evening walk in September. Surveys in 2024 have markedly increased total species number and added notable species such as: Common Toad, Harvest Mouse, Grasshopper Warbler and the Beech Splendour Beetle. Photographs of habitats and notable species found are Appendix I. Tables of all species recorded are in Appendix II. All species records have been sent to Thames Valley Environmental Record Centre.

Plants

In total **135** species of Vascular Plants were found in the Triangle, 8 more than in 2023. **This is a very good total for a site of this area that has a lot of one type of shrub (Osier willows).**

Herbaceous Plants (forbs) and Mosses

112 species of forbs were found in the scrub and wood margins, the rides and in ground flora under the willow (sallow) coppice. This includes 17 species of grasses, four species of rush and nine species of sedge plus one horsetail. **Four more orchid species and one hybrid** were found in 2024, bringing the orchid species total **to 6 plus the hybrid**. Additionally four species of common moss were present on the soil of the very winter-wet areas.

All forbs were common, except **five**. The first is the **Narrow-leaved Bird's-foot Trefoil** *Lotus tenuis*, which is Scarce in Oxfordshire, being on the county Rare Plants Register (4). Five plants of this were found along the southernmost open ride (see Appendix I) It is local in eastern and south eastern England south of the Humber, rarer elsewhere. One of its Oxfordshire sites is the grassy verges to Frieze Way (I helped record it there), so it is perhaps not surprising it has colonised the Triangle from the adjacent verges. Frieze Way is one of only 10 sites for this species in the County. The second uncommon species is **Corn Mint** *Mentha arvensis* which is on the New England Red List (5) due to declines. Large clonal patches of this plant are present mostly under the light shade of the Osiers in the wettest areas of coppice and along some rides, mostly on the west side.

New records in 2024 were uncommon species of orchid: one **Early Marsh Orchid** *Dactylorhiza incarnata*, 11 **Southern Marsh orchids** *Dactylorhiza praetermissa* and 12 **hybrid Early Marsh x Southern Marsh Orchids** *Dactylorhiza* x *grandis* (a rarely recorded spectacular large hybrid). Two **Twayblades** *Neottia ovata* are mentioned as notable as this is a species I find declining fast everywhere I survey in Oxfordshire as it is targeted by grazing deer which are increasing everywhere.

Four **Bee Orchids** *Ophrys apifera* were found including a white one. Notable amongst the drier flora within the willow coppice area in June 2024 were numerous **Pyramidal Orchids** *Anacamptis pyramidalis* and numerous **Common Spotted Orchids** *Dactylorhiza fuchsii*. Recent willow coppicing allowed a lot of these to flower and the orchids were especially concentrated along the southern ride next to the ancient woodland. Pyramidal Orchids and Bee Orchids seem to be benefitting from Climate Change and are increasing on roadside verges and dry meadows in Oxfordshire but this is not true of the other species so any site (as here) with a total of **six species** and an uncommon orchid hybrid, is still a remarkable and valuable orchid assemblage on a site that used to be an arable field in the past, but now must have beneficially low nutrient soil (See separate report by FoSB specifically on the Orchids).

There were a number of common species characteristic of drier soils such as: Oxeye Daisy *Leucanthemum vulgare*, Common Vetch *Vicia sativa*, Grass Vetchling *Lathyrus nissolia*, Hairy St John's-wort *Hypericum hirsutum*, Perforate St John's Wort *Hypericum perforatum*, Common Bird's-foot Trefoil *Lotus corniculatus*, Black Medick *Medicago lupulina*, Wild Carrot *Daucus carota*, Hogweed *Heracleum sphondylium*, Prickly Ox-tongue *Helminthotheca echioides*, Common and Hoary Ragworts *Jacobaea vulgaris* and *J. erucifolia*, Wild Parsnip *Pastinaca sativa*, Smooth Tare *Vicia tetrasperma*, Common Centaury *Centaureum erythraea*, Red Clover *Trifolium pratense*, Hop Trefoil *Trifolium campestre*, Agrimony *Agrimonia eupatoria*, and Self Heal *Prunella vulgaris*.

Most notable, however, was the greater number of forb species of **wet and waterlogged soils** – **four** species of rush (*Juncus* or *Eleocharis* sp.) and **nine** species of sedge (*Carex* sp.) and a less common rhizomatous grass of wet woods, ditches and fens – Wood Small Reed *Calamagrostis epigejos*, plus the wet-tolerant grasses: Creeping Bent Grass *Agrostis stolonifera*, Marsh Foxtail *Alopecurus geniculatus*, Black Bent *Agrostis gigantea* and even one expanding patch of Common Reed *Phragmites australis*. Broad-leaved forbs of wet soils included: Bugle *Ajuga reptans*, Greater Bird's-foot Trefoil *Lotus pedunculatus*, Cuckoo Flower *Cardamine pratensis*, Amphibious Bistort *Persicaria amphibia*, Great Willow-herb *Epilobium hirsutum*, Square-stalked St John's Wort

Hypericum tetrapterum, Tufted Vetch *Vicia cracca*, Hemp Agrimony *Eupatorium cannabinum*, Curled Dock *Rumex crispus*, Corn Mint *Mentha arvensis* and, lastly and most spectacularly - vast swathes of **Common Fleabane** *Pulicaria dysenterica* which extend from the rides as a monoculture understory to the majority of the willow coppice occupation area. In mid- to late-August the yellow daisy-type flowers of this plant resemble a '**golden flood**', alive with insects seeking nectar and pollen (see photographs in Appendix I). Areas of willow coppice not dominated by Common Fleabane on the ground on the west side were dominated by a wetland ground flora of rushes, sedges, Creeping Bent-grass and Corn Mint. Extensive mats of inundation-tolerant Kneiff's Hook-moss *Drepanocladus aduncus* indicate raised water levels for prolonged periods in winter.

The majority of the ground flora could be described as belonging to wet grassland or even marsh habitat (especially all the rushes, sedges and Common Fleabane super-abundance). However this is an unusual wetland flora that tolerates complete drying-out to hard cracked clay every summer. **This vegetation type is difficult to assign to any of the broad UK Habitat types.** However, on reflection, after nearly 2 years surveying, I think that because of its history of ploughed arable followed by much past ground disturbance for a motorcycle track, poor drainage with temporary pools and some rubble dumping, followed by willow planting and natural shrub colonisation; my feelings on its flora list of land between willows are that it looks like a 'greened-up' and very diverse wetland version of **Open Mosaic Habitat on Previously Developed Land (OMHPDL)** a UK Priority Habitat (Habitat of Principal Importance). With the addition of planted willows held at shrub stage by coppicing and natural scrub invasion.

My reasoning for these thoughts? Access by machinery for willow coppice harvesting regularly churns up the rides creating deep ruts with temporary pools and continually generates more new bare ground areas, for early successional communities typical of OMHPDL. The ground flora list is dominated by plants that are quick colonists and low nutrient status has favoured numerous orchids, often abundant in OMHPDL. Between the willow coppice rows where Fleabane does not dominate, there might be some areas of a type of **wet Neutral Grassland**; but the presence of Compact Rush may indicate the development of a degree of acidity, common on waterlogged clay soils. The source of the water will be only rainwater, so low nutrient conditions are likely, favouring orchids.

Whilst most of the plants may seem to produce an unremarkable assemblage, it does not mean it lacks important wildlife and is therefore of conservation value. **As in many examples of OMHPDL, the invertebrate assemblage is proving to be most diverse with important species**, with only limited study.

Common flowers present such as Common Fleabane, Hogweed, Wild Carrot, Upright Hedge Parsley, thistles and Wild Parsnip are known big pollen and nectar attractants in summer; and the flowers of these on site were well visited by butterflies, bees, flies, beetles and wasps.

Species probably relict of the field's arable past (i.e. 'arable weeds') seen occasionally included: Scarlet Pimpernel *Anagallis arvensis*, Twitch/Couch-grass *Elymus repens*, a presumed Fodder Vetch Field Forget-me-not *Myosotis arvensis*, Cleavers *Galium aparine*, and Black Bent Grass.

Woody Plant Species

18 woody species were found in the area including the northern scrub (shrub) section. Typical species were Bramble *Rubus fruticosus* agg. of various types, Dewberry *Rubus cespitosus*, Blackthorn *Prunus spinosa*, Common Hawthorn, Grey Willow *Salix cinerea* Pedunculate Oak *Quercus robur*, Hazel, English Elm *Ulmus procera* and a Small-leaved Elm *Ulmus* sp cf. *U. minor*, Common Dog Rose *Rosa*

canina and rare Buckthorn *Rhamnus cathartica*, Hazel and Guelder Rose. The willow coppice Osier blocks are a type of scrub which was originally a monoculture but woody plant biodiversity has increased by colonisation of other shrub species into the coppice from the margins. Additionally and unusually, a number of hybrid wild **Sweet Briar** roses *Rosa* sp (**Eglantine**, with glandular apple-scented leaves and pink flowers, see Appendix I) are present on margins, but also spreading into the willow coppice. One very unusual, wild rose with white flowers is probable hybrid involving the very scarce **Small-leaved Sweet Briar** *Rosa agrestis*, found on the eastern fence line at the site margin. This needs more expert botanical opinion on its identity; with more time this can be achieved.

Trees present included: Crack Willow *Salix fragilis*, Pedunculate Oak, Ash, Field Maple *Acer campestre*, English Elm *Ulmus procera* (mostly affected by of Dutch Elm Disease) and a couple of unknown Elm species, one resembling Small-leaved Elm and a larger Smooth-leaved Elm, both of which are present in extensive suckered thickets (most likely originally planted) all along the western margin to Frieze Way and invading from there. Five large planted Lombardy Poplars (a cultivated variety of Black Poplar) are at the northern end of the site nearest the roundabout. Three mature Pedunculate Oaks are present on the Oxford Road margin, the largest of which was estimated to have a trunk diameter at chest height of 72cm, meaning it could be over 100 years old, in my experience. It is noted that these now have Tree Preservation Orders on them.

Willow Coppice

This occupies a large area of the site centre and is composed of one species of planted native willow known as **Common Osier** (*Salix viminalis*) which has very long upright branches and long narrow leaves with silver undersides. This central area might be assumed to be of low ecological value as a monoculture of species held by cutting at the young scrub stage; however this would be a wrong assumption. Firstly the coppice willow has become invaded and diversified by other scrub species such as: wild roses, Common Hawthorn, Blackthorn and suckering Elm clones. The osier willows were seen in spring 2024 to be composed of both males and females; large numbers of male pollen-bearing catkins being particularly valuable as willow is a hugely important nectar and pollen source in spring and flowering on young wood is common. The majority of the willow branches were in abundant flower by spring 2024. Willow can support a big total diversity of invertebrate species; one quote is up to 450 dependent species, which will include: bugs, bees, beetles, flies and moths. This is not to say all those associated species will be present here, but my brief surveys do indicate a small number of willow-associated insect species. Also the Osiers restricted and vertical growth ensures only a very light leaf canopy, casting little shade and thus allowing enough light through to result in a complete ground cover flora underneath the coppice blocks with a diversity of species including Common Fleabane, Corn Mint (new England Red List), wetland grasses, sedges and rushes with notably six species of orchids discussed above (see photographs in Appendix I). This adds considerably to the total diversity of the willow coppice blocks. Abandoned piles of decaying cut willow wands rejected after coppicing and the rotting seen of some of the 18 year old coppice stools have created a huge deadwood source in the middle of the site which supports fungi (including a rarity) and numbers of 11 deadwood beetle species including scarce species.

The amounts of **Common Fleabane** under the willow coppice are **truly extraordinary, it is a fast spreading clonal species thriving in the wet soils, obviously quickly took advantage of the bare wet soils years ago**. As mentioned, in late August the thousands of yellow daisy-type flowers open here present a short-lived stunning spectacle which makes the willow coppice look like a flower garden.

Marginal mixed scrub, woodland and marginal woodland belts

Lowland Mixed Deciduous Woodland habitat adjacent to the Triangle to the south in Stratfield Brake East is a Priority Habitat (Habitat of Principal Importance, NERC act 2006) and features mainly mature Pedunculate Oaks, Ash, Field Maple, Sycamore and various scrub species. It fulfils all the criteria for Ancient Woodland. The Triangle east and west margins (not hedgerows, more wide woodland/scrub belts) provide a thick and valuable habitat with abundant Bramble, Dewberry, Grey Willow, Common Hawthorn, various Elms and Blackthorn with occasional trees as above. The ditches within the margins provide linear shaded wetland habitat for much of each year, benefitting mostly specific invertebrates. **Scrub (with a diversity of shrubs) is the most valuable habitat for bird diversity** and will support many insects plus the marginal strips will be corridors for foraging, hunting bats. The lack of street lighting along Frieze Way for most of its length makes the marginal belt on the west side especially important to commuting bats as evidenced by my bat walk with Andy Pedley.

The northern scrub (shrub-dominated) area of the Triangle contains some planted species not found elsewhere (Hazel, Buckthorn, Guelder Rose and Dogwood) with an abundance of Common Hawthorn, Sallow and Bramble patches. The bushes are young enough to mostly still have a rich and varied ground flora between them. As in the willow coppice to the south, Common Fleabane is very abundant with the addition of occasional large patches of Michaelmas Daisy *Aster* sp. and clumps of Hemp Agrimony *Eupatorium cannabinum*.

Deadwood

The marginal hedge/tree and scrub belts contain much deadwood. This should not be seen as detrimental or a problem because it is an important food and habitat resource for specific wildlife. The English Elm which occupies a good stretch of the eastern margin to Oxford Road is affected by Dutch Elm Disease (DED) and most trees are now standing dead or fallen thus offering much opportunity for deadwood (saproxylic) invertebrate breeding. Trees may be dead but the English Elm as a species is very much alive - abundantly suckering new growth is present and not yet large enough to be subject to DED. Elm foliage-breeding insects will still be supported.

As mentioned, within the Willow (Osier) coppice blocks there are numerous piles of small diameter dead willow wands (harvested but presumably unsuitable for use) which provide an important deadwood-breeding resource within the site centre for deadwood-breeding (saproxylic) beetles that use small diameter wood. See discussion of such invertebrate species found below.

Fungi

Seven fungal species were found, one not yet fully identified. In my experience these are all common except the rare (**Nationally Red Data Listed**) **Scented Bracket** *Trametes suaveolens* (strong aniseed smell) which always grows on dead willow wood and is found within the Osiers at this site growing on **eight willow coppice stools**. Two species of toadstool were found near willows (a fibre cap *Inocybe* sp. and a sweet scented Poison pie toadstool *Hebeloma sacchariolens*) and are known mycorrhizal root associates of willow. Further fungal species associated with willow tree roots and deadwood might be expected. Many invertebrates breed in fungi.

Vertebrates

Despite concentrating mainly on invertebrates, mammals were noted. Two species of deer use the site. A Muntjac *Muntiacus reevesii* was heard barking and repeatedly a female Roe Deer *Capreolus capreolus* was surprised in the willow coppice, and on all occasions she immediately ran off to the south and into the Stratfield Brake East woodland strip. One empty nest of a Harvest Mouse *Micromys minutus* within the Willow coppice was found on 29.03.2024 (see Appendix). This species has **Conservation Status as a Section 41 Species of Principal Importance** under the 2006 NERC Act in England (Previously UK BAP Priority Species). An adult badger *Meles meles* was found dead on the east Frieze Way verge adjacent to the Triangle on 23.09.2024.

One adult Common Toad *Bufo bufo* was found under a plastic sheet in 2024. This is a Priority Species under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006, but likely not breeding on the Triangle site (numerous toadlets have been observed in summer leaving the ponds in nearby Stratfield Brake western area new ponds). Adults and a number of juvenile (3cm long) Common Frogs *Rana temporaria* were seen. There is limited potential for frog breeding on site, depending on how long water remains in the marginal ditches, especially where one is widened to a long temporary pool on the eastern margin. All the juvenile frogs were just about big enough to have been able to cross Frieze Way from the wetland near the Woodland Trust new planting, although traffic would limit survival. As to birds, a Green Woodpecker *Picus viridis* was seen; Chiff Chaffs *Phylloscopus collybita* and Wrens *Troglodytes troglodytes* were heard regularly; also there was one instance when I heard the song of a Grasshopper Warbler *Locustella naevia*. Adult Wrens plus a group of Wren fledglings were seen foraging for food within the Osier coppice. A mixed tit group was seen on site in late autumn 2023 and again in December 2024 (Long-tailed Tit, Blue tit and Great Tits). A pair of Sparrowhawks *Accipiter nisus* was seen flying out from the Stratfield Brake East woodland on 28.07.2024, circling and calling over the Triangle.

The Triangle habitats are a good foraging area for **bats**. A walk with Andy Pedley and his hand-held bat aural detector (Wildlife Acoustics Echo Meter Touch 2 for Android) around the inside of the Triangle on 22.09.2023 recorded **Soprano Pipistrelle *Pipistrellus pygmaeus*** and **Noctule *Nyctalus noctula***. These bats are both **Priority Species (Section 41 Species of Principal Importance)** under the **2006 NERC Act in England** (Previously UK BAP Priority Species). The greatest density of bat calls was in the southern ride, adjacent to Stratfield Brake East where we actually saw the bats hunting just over our heads in the dusk. The bats will be using the nearby Ancient Woodland of Stratfield Brake East for roosting as it has mature trees and plenty of standing deadwood with peeling loose bark habitat. Further bat surveys are needed. Moths are an important source of food for bats and these flying insects will be generated by caterpillars feeding on scrub and trees including the coppice Osiers and other willows. **Currently Frieze Way has no street lights** for most of its length so there is little to dissuade bats from commuting across it from the bigger Stratfield Brake western woodland block and Woodland Trust plantings to the Triangle to feed.

Invertebrates

264 invertebrate species so far have been identified (103 more than in 2023) comprising in total: 70 beetles, 19 butterflies, 32 moths, 1 lacewing, 7 dragonflies & damselflies, 25 true bugs, 22 bees & ants & wasps, 1 sawfly, 8 grasshoppers & crickets, 64 true flies, 4 molluscs, 14 spiders & harvestmen and 1 crustacean. A portable battery powered moth trap was run in the willow coppice area on 10.08.2024 and again on 29.08.2024, but the weather turned cool on both evenings and the moth catch was reduced. After 1.5 years surveying, these totals are still nothing like the full species diversity of invertebrates that I would expect to be present and which would be revealed using additional

collecting methods. The very least additional methods needed would be pit-fall trapping, yellow pan traps and suction sampling plus further moth trapping earlier in the year.

The greater the plant species diversity on any site, the greater the expected invertebrate diversity of generalists plus highly specialised invertebrates linked to specific habitat conditions (wet pools, bare ground) or specific food plants. Just one example of the latter is the finding of the **St John's-wort beetle** *Cryptocephalus moraei* which lives on the leaves of St John's Worts (three species present: Hairy, Perforate and Square-stalked St John's Worts).

The willow (Osier) coppice has been in place on site for around 19 years. This is plenty of time to accumulate a good associated invertebrate fauna feeding on the leaves and flowers. Much damage to the willow leaves caused by the grazing of larvae of leaf beetles was seen (see Appendix I). These larvae were likely of the common **Brown Willow Beetle** *Galerucella lineola* and **Willow Leaf Beetle** *Lochmaea caprea*, seeing as a numerous adults of both these species were swept from the site in July. The willows probably therefore provide abundant beetle food resource for insect-eating birds and bats.

Less common invertebrates found breeding specifically in willows include for example the **Red-tipped Clearwing Moth** *Synanthedon formicaeformis*, larvae of which breed in willow branches, particularly Osiers (see Appendix I). One adult was found, but this could be more frequent on site. All clearwing moths are rarely recorded unless using specific pheromone lures to attract males during the flight period.

Rather surprisingly, very small, temporary clean water (rainwater) pools were found all over the site in low lying areas and in deep machinery ruts in the heavy clay made regularly by harvesting willow. Such newly generated pools produced **10 species of water beetle** (all common, opportunistic species) until they dried out in high summer. Numbers of wetland flies in the Dolichopodidae, Sciomyzidae and Psilidae reflect the very wet site conditions.

Common plants can support rare insects; this is the case for the Common Fleabane *Pulicaria dysenterica* on site. It was a surprise to sweep several individuals of the small rare picture wing fly (Tephritid) *Myopites inulaedyssentericae* which breeds in Fleabane flower-heads forming a specific gall there (see discussion below and Appendix I). I regularly sweep fleabane in other fen wetlands in Oxfordshire at the right time, but have never before found this fly. Three other insects breeding in the Fleabane were found: the **Dusky Plume Moth** *Oidaematophorus lithodactyla* (Local in Oxfordshire see Appendix I) the **Dark Seedhead moth** *Apodia martinii* (nationally 'Local') and a leaf-mining fly *Phytomyza conyzae*.

The **Swiss-cheese Tephritid (Picture-wing) fly** *Merzomyia westermanni* with its strangely patterned wings (see discussion below and Appendix I) is a further example. This breeds in Hoary Ragwort, which is on site and common in Oxfordshire, but the fly is **very uncommon**.

Nearly all common species of **Bumble Bee** were recorded on site visiting the abundant summer flowers for nectar and pollen: Buff-tailed *Bombus terrestris*, Red-tailed *Bombus lapidarius*, White-tailed *Bombus lucorum* agg, Common Carder *Bombus pascuorum* and Early Bumble Bees *Bombus pratorum* were seen (workers and newly emerged Queens). Common Carders were the most numerous. A number of smaller solitary bees were seen. Examples are the Wood-carving Leafcutter Bee *Megachile ligniseca* and the Yellow-faced Bees *Hylaeus dilatatus*, *H. communis* and *H. confusus*. By far the most numerous type of bee on all flowers (but particularly on the Fleabane) was workers of the Honeybee *Apis mellifera* – perhaps foraging out to the Triangle from kept hives in a south

Kidlington garden. Willow catkins are a very important food source for spring bees; both specific spring solitary bee species and especially newly emerged Bumble Bee queens building up resources to found new colonies

There are numerous **anthills** in the drier parts of the site. Mostly these are the Common Black Ant *Lasius niger*, but there are also numbers of Yellow Meadow Ant *Lasius flavus* anthills, usually an 'old meadow' species. The density of anthills is responsible for my record of the associated uncommon **Ant Ladybird** *Platynaspis luteorubra*, the first time I have seen this.

A good range of **butterflies** (19 species) was found on site, most in small numbers with the exception of numerous Gatekeepers *Pyronia tithonus*, seen on the wing in July and Speckled Woods *Parage aegeria*, on the wing in August. It is likely that caterpillar food plants for all those seen are present, so likely breeding on site for example there is plenty of Cuckoo Flower for Orange Tip *Anthocaris cardamines* caterpillars. In addition a female of the rare **Brown Hairstreak** *Thecla betulae* on the western hedge in September 2023 and one egg of this species was seen on Triangle Blackthorn in February 2024. Whilst not found in these surveys, **White-letter Hairstreak** *Satyrion w-album* may be present on site due to a record on Frieze Way three years ago (discussed below). **Black Hairstreaks** *Satyrion pruni* are known from Blackthorn in the Woodland Trust planting area only just over Frieze Way from the Triangle (pers. comm. Dave Wilton of Butterfly Conservation). There is plenty of Blackthorn around the site margins, so searches specifically for rare Black Hairstreak and more surveys for Brown Hairstreak butterflies need to be carried out by specialist recorders. Numerous **Purple Hairstreaks** *Favonius quercus* are also known by butterfly recorders from Stratfield Brake East oak trees immediately adjacent to the Triangle.

A small range of common Odonata use the site. **Common Blue, Blue-tailed and Large Red Damselflies; Common Darter and Emperor Dragonflies; both Beautiful and Banded Demoiselles** were seen to be using the Triangle as a hunting ground to catch flies; but their breeding site will almost certainly be the nearby Stratfield Brake West constructed wetland or the canal adjacent to that. They will have crossed Frieze Way to access the Triangle for food.

Amongst the **70 beetle species** so far found it is interesting that **11 species of dead-wood breeding (saproxylic) beetles** were in the Triangle rides swept from flowers such as Wild Carrot, Hogweed and Fleabane and the flowers of hawthorn in the hedges and sweeping over willow deadwood in the centre. Examples of the bigger species are: Black-striped Longhorn *Stenurella melanura*, Spotted Longhorn *Rutpela maculata* and Four-spotted Longhorn *Leptura quadrifasciata*. All indicative of the importance of nearby abundant deadwood for their larval development on site. There were impressive numbers of patterned **pintail or tumbling flower beetle** *Variimorda villosa* (no common name) swept, this is uncommon and local. In 2024 four specimens of the Nationally Scarce metallic blue-green deadwood breeding **Beech Splendour Beetle** *Agrilus viridis* were swept from over abundant piles of willow deadwood within the coppice area. Some of these deadwood-dependent beetles may have bred in the Stratfield Brake Woodland East, and merely visited the Triangle, but the beetles swept far away in the willow coppice must have been breeding there. The other star beetle find was a rare click beetle *Paraphotistus nigricornis*; all these are discussed further below and photographs are in Appendix I.

Comments on Invertebrates of Conservation Importance found (8)

1. Myopites inulaedyssentericae. A picture-wing (Tephritid) fly with no common name (could be imagined to be the 'Fleabane Picture-wing') which only breeds in the flower-heads of Common

Fleabane. Several individuals were swept and on one occasion a female was seen ovi-positing (egg-laying) in a fleabane flower. See photographs in Appendix I. This still has a **Conservation Status of 'RARE (RDB3)'** in older assessment texts (6), but seems to be likely to be increasing with Climate Change and discussion with other entomologists indicates it is now being found more widely. However, it seems to require long-established, large stands of Fleabane for a breeding population - small patches or one or two plants are not enough to support this species. This is the first time I have found this fly in Oxfordshire, despite regularly sweep-netting in wetlands with Common Fleabane in small patches. **Distribution maps produced by a specialist in this group of flies (7) show no previous Oxfordshire records at all.**

2. *Paraphotistus nigricornis*. A click Beetle (Elateridae) See photograph in Appendix I. One was swept from a flowery ride on 25.06.2023. This is a beetle I have previously only rarely encountered in ancient diverse and protected Oxfordshire meadows. Specifically Oxford Meadows SAC and New Marston Meadows SSSI, neither of which are a long way away. **Current Conservation Status 'RARE' (RDB3)** and its habitat is quoted as wet meadows, wet broadleaved woodland and wetland especially near Sallows. Larvae apparently develop in waterlogged soil. It has a scattered distribution in southern England to northern England, with an old record for south Wales (8).

3. *Agilus viridis*. The Beech Splendour Beetle (Buprestidae). See photograph in Appendix I. Four specimens of this iridescent blue-green beetle were caught in 2024 on different dates by sweeping over piles of willow deadwood in the central coppice blocks. It is a dead-wood breeding (saproxylic) species with a Conservation Status of **Nationally Scarce**. Larvae develop beneath bark on freshly dead and dying woody stems of various broad-leaved tree and shrub species (especially willow) particularly small stems with thin bark in sunny situations. Woodland is unsuitable.

4. *Merzomyia westermanni*, the Swiss-cheese Tephritid (picture-wing) fly. One of these spectacular flies was swept from flowers of Hoary Ragwort on 23.09.2023 (See photograph in Appendix I). This species breeds in flowerheads of both Common and Hoary Ragwort found on site. **It used to be Notable (Nationally Scarce)** but may be being found more widely these days, so a better description might be **'extremely Local across the south of UK'**.

5. *Variimorda villosa* (a tumbling flower beetle or pintail beetle, family Mordellidae). See photograph in Appendix I) Nine adults of this species were swept from flowers on 9th July and similar numbers swept from flowers on every visit thereafter. Adults feed on pollen and nectar. Larvae are likely to be in deadwood or plant stems and it is often found near willows; could be breeding in the piles of dead willow poles left from coppicing or in the abundant deadwood in the nearby mature woodland. I have previously encountered this beetle only rarely in Oxon and never seen the frequent numbers found here. Currently this species is described as **'widespread though very local in woodlands across the south of England and Wales'** (9).

6. Cinnabar Moth *Tyria jacobaea*. The banded yellow and black caterpillars of this striking black and red day-flying moth species were noted feeding on Hoary Ragwort on 9th July. This species has Conservation Status as a Section 41 Species of Principal Importance under the 2006 NERC Act in England (Previously UK BAP Priority Species). It is however fairly common in good habitats with ragworts in Oxfordshire.

7. White-letter Hairstreak *Satyrrium W-album*. Whilst not found in the current surveys actually on the Triangle site, I found a single caterpillar of this butterfly under an Elm leaf on Frieze Way on 15th May 2020 (see photograph in Appendix I). It is therefore highly likely to be also breeding on the

Elms on the Frieze Way side of the Triangle as well, or the Elms in Stratfield Brake East woodland. It is a habitat specialist butterfly that has shown national decline. The charity Butterfly Conservation records and calculates population trends in butterflies. They calculate an abundance trend of -30% for White Letter Hairstreak (State of UK Butterflies 2022). Adults can move regularly between trees up to 300m apart. Many colonies are restricted to a small group of trees, but dispersal appears quite common and individuals have been seen several kilometres from known breeding sites (10). This species has **Conservation Status as a Section 41 Species of Principal Importance** under the 2006 NERC Act in England (Previously UK BAP Priority Species).

8. Brown Hairstreak *Thecla betulae*. One adult female butterfly was photographed inside the Triangle on 07.09.2023. (see photograph in Appendix I). This butterfly breeds on blackthorn suckers in sunny and sheltered situations. It is known also from blackthorn at the Stratfield Brake Woodland Trust site across Frieze Way. It is local species that lives in self-contained colonies that breed in the same area year after year. It is listed as Vulnerable on the new Butterfly Red List. **Conservation Status as a Section 41 Species of Principal Importance** under the 2006 NERC Act in England (Previously UK BAP Priority Species). A brief survey for eggs in spring (17.02.2024) on the blackthorn revealed **one egg**, but there was not time to search all likely bushes, could easily be more so the Triangle is a potentially important breeding site.

Conclusions and Discussion

The Triangle has been shown here to be a site with considerable biodiversity of plants and invertebrates, with some rare species and important records in a few other groups such as fungi and vertebrates. **Any assumption that the big area of willow coppice in the site centre means low biodiversity has been shown to be wrong**, mainly because (unknown before these surveys) underneath the coppice is a complete herb layer, regularly disturbed, with temporary clean pools and with a diversity of herbaceous plants. These flower in abundance in summer, dominated by Common Fleabane, with the red-listed Corn Mint and including six species (and some spectacular hybrids) of Orchids. This community is adapted to the heavy clay winter-wet soil plus the management regime and in my opinion would be very difficult to re-create.

The tenant's non-intensive rotational willow coppice management of the site centre is the best thing that could have happened here to maximise biodiversity, especially of flowers and invertebrates. Abundance of common insects is important as well as diversity. The sheer abundance of common leaf-feeding beetles on the osier coppice growth will be important as a food resource for all species higher up the food web, particularly insectivorous birds and bats. Recent decline of insect populations is causing much concern, but insect decline is not observable here.

It is suggested that the heavy clay ground habitat around and between planted basket willows and northern scrub is a partial fit to one of the wetter versions of **Open Mosaic Habitat on Previously Developed Land, a UK Priority Habitat** with additional areas of a wet version of **Neutral Grassland**.

The northern mixed scrub area needs some conservation work to prevent scrub canopy closure over open flowery areas; removal of a proportion of mainly hawthorns would maintain the interest here,

Six species designated Section 41 Species of Principal Importance are recorded present (Common Toad, Harvest Mouse, Noctule bat, Soprano Pipistrelle Bat, Brown Hairstreak Butterfly and Cinnabar Moth). Another so designated species, the White letter Hairstreak Butterfly breeds very nearby.

Grasshopper Warbler is classified in the UK as Red under the Birds of Conservation Concern 5: the Red List for Birds (2021).

Rather surprisingly the sustainably managed willow coppice (for weaving, not wood-fuel) features abundant **deadwood generation** favouring 11 species of deadwood-breeding beetles including one Nationally Scarce beetle and one Red-data listed fungus.

Apart from the good overall invertebrate biodiversity it is particularly notable how the abundant summer and late summer flower resource supports the needs of all vital pollinating insects that are in national decline (bees, flies etc.) **at a time when flower resource in other habitats, such as verges or meadows, is not available** (due to being in seed or cut for hay).

Why is the Triangle so rich in biodiversity?

- 19 years from willow coppice planting – time for natural colonisation of an abandoned field/motocross track - wildlife has had plenty of time to move in from rich woodland & hedgerows that surround it on all sides.
- No public access for 19yrs. No dog mess and nutrient pollution. No fires to damage deadwood.
- Low nutrient clay soil (probably 20 years of no arable and fertilizer input and willow harvesting removes nutrients) - wildflowers thrive in low nutrient soil, ideal for the six species of orchids.
- No use of pesticides, in particular insecticides.
- Diversity of soil type and hydrology - some areas drier soil, much of the site wetter heavy waterlogged clay soil, (even small scale variation like deep rutting from heavy vehicles creates localised micro-wetland habitats in water-filled ruts).
- Winter waterlogging selects for range of wetland plants that can tolerate inundation BUT also stand complete summer soil drying, such as: Common Fleabane, Great Willow Herb, and Corn Mint that provide an **abundant late summer pollen and nectar resource for all pollinating insects**,
- Marginal species-rich old thick hedgerows or tree belts - good colonisation by seed of plant species from these edges and from the ancient woodland (to south) allowing species previously limited to margins to move in and colonise centre quite quickly, like sweet briar roses.
- Proximity to Stratfield Brake East to the south and Stratfield Brake West Ancient Woodland and Woodland Trust new tree-planting and the new wetland complex on the western side of Frieze Way, nearer the sports ground. Mobile species from all these areas can cross Frieze Way to use the food resources available in the Triangle (beetles, flies frogs, toads, bats, dragonflies, damselflies)
- Planting of a big area of the centre of the site with Osiers for harvesting for fencing. A species of native Willow – all species of Willow tree can support a great diversity of invertebrates.
- Vast quantities of willow coppice branches cut and discarded on site plus rotting coppice stool bases provide much food for deadwood fungi and deadwood beetles.
- Planting of a diversity of trees and scrub at the northern end – intention to create a new diverse woodland with shrubs, somewhat limited by subsequent ash dieback removing some planted trees; but with natural colonisation by grey willow and hawthorn compensating for this loss.
- Coppice management of rotational cutting keeps willow at the shrub stage and the upright (non-spreading) growth of the Osier branches prevents excessive shade developing

underneath, therefore many different herbaceous plants including **orchids** can live actually under and between the Osiers.

- **ROTATIONAL Willow coppicing** (cutting down blocks of willow shoots) moves around the site annually – the regular creation of new sunny sheltered glades is ideal for flowers and warmth-loving insects like butterflies that like to bask. By the time the willow in a block has re-grown again, a new sunny glade is being formed nearby. **Current management promotes biodiversity.**
- This results in the site centre being a mosaic of old, uncut tall willow, and half regrown sprouting willow and newly cut bare areas. **Vegetation mosaics are always good for overall biodiversity**, especially of bird and invertebrate life.
- Cutting of the access rides vegetation annually (at least) provides a type of meadow management that promotes herbaceous plant and insect diversity in these permanently open sunny areas. Access with heavy wheeled vehicles on waterlogged clay creates disturbance, bare ground and temporary pools, annually providing continual early successional stage habitats.

I consider there is sufficient diversity of plants and invertebrates at this Triangle site for it to be **worthy of consideration for District Wildlife Site Status**, it would be a good extension to the existing Stratfield Brake DWS. Currently the Triangle habitats and species are valuable in themselves, but they also perform a very important role in supporting and protecting the wildlife of the narrow strip of Priority Habitat Ancient Woodland to the south (Stratfield Brake East) and extending up some of the East and West Triangle margins. This habitat is in the **core zone of the Proposed Nature Recovery Network for the County** (12). Without the Triangle as it is now, a carefully managed sustainable green willow coppice with no public access; this valuable small area of Woodland Priority Habitat will suffer some species loss and all of it will suffer damaging isolation and too much human pressure.

The aim of these surveys has been to find the biodiversity present and results so far show it is a rich site; even if the habitats in the site centre do not pigeon-hole clearly to any Priority Habitat on the UK Habitats Inventory it at least approaches managed willow woodland and OMHPDL. Biodiversity is species-richness - the total of all plant, animal and fungal species on any site. It has been amply demonstrated that this is a high biodiversity site. There will be many more species still to find.

I would expect ALL the plant and invertebrate species found (including most of the rare or notable ones) to be eliminated by the development of a football stadium and associated structures. The site interior will be first scraped ‘clean’ by bulldozer and then ground-raised by importing soil and rubble because of the waterlogging. Orchids can’t be moved and be expected to survive; they have to choose a suitable site themselves. Hedgerows, woodland strips east and west will be mostly lost with removal of valuable mature oak trees. It might be thought mobile animals like bats can just move, but ones roosting in the adjacent southern woodland would be massively disadvantaged by having to find another feeding area and be frightened away by noise and lighting, whatever mitigation proposed. Lighting along Frieze Way for a cycle track will further disadvantage moths and bats and severe the connectivity to Stratfield Brake West.

The hydrological future for the Stratfield Brake East ancient woodland strip with a Stadium in place looks grim. The ground in the woodland SW corner is naturally a very low area, excessive run-off from a Stadium car park adjacent here could easily overflow to this wood area,

drowning woodland flora and ancient coppice stool oak trees that I estimate could be in excess of 500 years old.

An alternative positive future for the Triangle site might entail continuation of the sustainable willow coppice business in the southern section combined with opening up and managing the overgrown northern area as an accessible nature area in connection with the Wild Kidlington project, making it an educational area for children from local primaries.

If the Stadium goes ahead, this document will serve merely as a record of what rich wildlife was destroyed, in a biodiversity crisis.



Acknowledgements

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3. http://www.dave-cushman.net/bee/changing_willow.html If you search for 'Kidlington' on the page you will find reference to the Triangle planting in the middle of this text:
"Slough Heat and Power is part of Thames Valley Energy, committed to growing biomass alternatives. This field is owned by Oxfordshire County Council and is growing coppice Willow to be harvested and used to heat Shortenills Primary School. It had the first cut Figure 6 Field at Kidlington Oxford. Map Ref FP 499121 (author's photo) in winter 2007 and will now be grown on for three more years before being harvested. At that time the Willow will be expected to be yielding about

10 od tonnes / ha (oven-dried tonnes/fuel per hectare) It can continue being harvested every two or three years for up to twenty years."]

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Appendix I

**Photographs of Vegetation types (Habitats) present in the Triangle,
Flooding and Species of Note (all photographs are my own)**



**Northern fenced scrub and tree planted area, Fleabane field layer just starting to flower
12.08.2023**



**Northern fenced off mixed scrub area. Berrying Hawthorn with Flowering Fleabane field layer
(left) and berrying Guelder Rose (right).12.08.2023.**



Eastern ride adjacent to marginal tree belt along Oxford Road. Very winter-wet sedge-dominated area at the south (on left) 12.08.2023, Common Fleabane *Pulicaria dysenterica* dominated eastern ride further north (on right) 19.08.2023



Southern most grassy and Common Fleabane-rich ride adjacent to Stratfield Brake (left) - 29.07.2023. Western margin of thick Elm and bramble scrub margin adjacent to Frieze Way (right) - 25.06.2023.



Eastern marginal ride adjacent to Oxford Road, yellow Wild parsnip *Pastinaca sativa* flowers in foreground (left). Mature Oak trees and Blackthorn scrub on this margin further to the south (right) - both 29.07.2023.



**English Elm *Ulmus procera* on eastern margin next to Oxford Road, dying due to Dutch Elm Disease, much standing deadwood. Flower-rich scrub and buried fence in the foreground.
29.07.2023**



**Two views of the wide grassy ride at north end of site in full flower, wet meadow-like flora with abundant flowers of yellow Common Fleabane, white Wild Carrot and pink Great Willow herb.
Under overhead cabling - 12.08.2023.**



Sheets of Common Fleabane *Pulicaria dysenterica* in full golden flower under Osier coppice blocks - 06.08.2023 & 12.08.2023



Osier willows cut and bundled ready for use. A new temporary glade created - 29.07.2023



Small diameter willow dead wood lies in piles all over the willow coppice area (left). Sheets of purple bugle flowers grow up through abandoned dead willow coppice wands. These dead willow branches provide much food resource for dead-wood breeding beetles found by sweeping these areas. 11.05.2024 and 09.06.2024.

Flooding and ground conditions in the Triangle during autumn, winter 2023 and spring 2024



Winter flooding of the site, photographs from 02.01.2024 to 17.02.2024. Last photo shows how flooding is making leaking gas main repair by SGN very difficult

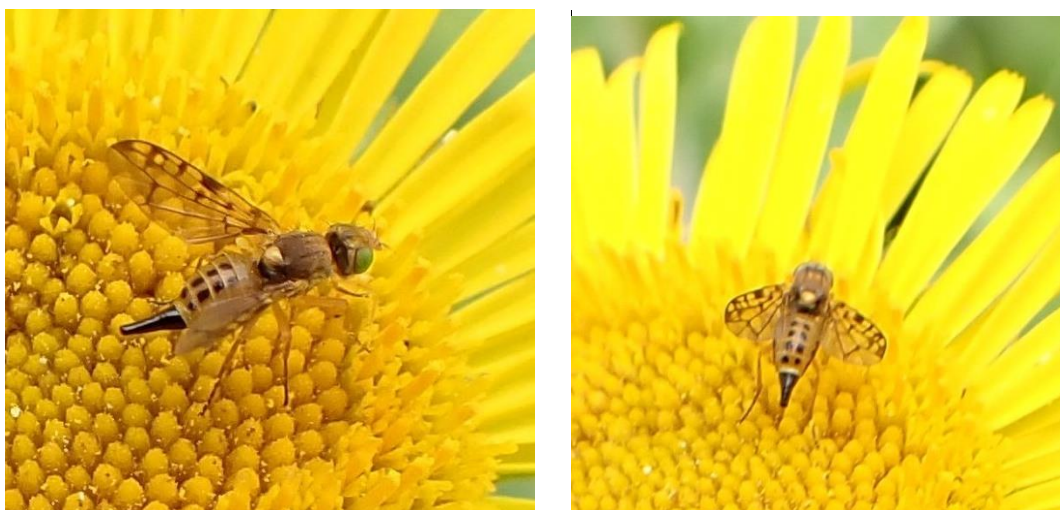
Photographs of Species of Note found in the Triangle



Osier willow leaves extensively grazed by beetle larvae of various common leaf beetles and the Willow Leaf Beetle *Lochmaea caprea* (one of the several species responsible for the feeding damage).



All common insects love Fleabane flowers. Buff-tailed Bumble bee *Bombus terrestris* queen (left). Large numbers of Honey Bees *Apis mellifera* (centre) also use the flowers as do hoverflies e.g. *Volucella inanis* (right). 12.08.2023



***Myopites inulaedyssentericae*. A rare small picture-wing (Tephritid) fly which breeds in the flower heads of Common Fleabane. Here females are shown, one (right) actually in the process of oviposition (egg-laying) into the Fleabane flower head - 20.07.2023.**



The Swiss-cheese Tephritid (picture-wing) fly *Merzomyia westermanni*. This Notable/Very Local fly breeds in flowers of Hoary Ragwort. One swept on 23.09.2023.



White Letter Hairstreak *Satyrium w-album* butterfly adult and caterpillar. Adult photo from my personal archive, (not within the Triangle) but the caterpillar on right was found on an elm leaf on adjacent Frieze Way on 15.05.2020



Brown Hairstreak Butterfly *Thecla betulae* photographed resting under an Elm leaf on the inside of the Frieze way hedge to the Triangle on 07.09.2023. Egg on blackthorn nearby 11.02.2024



Red-tipped Clearwing Moth *Synanthedon formicaeformis* (left). Caterpillars breed in willow twigs, especially Osiers. Found in the Triangle on 06.08.2023. Dusky Plume moth *Oidaematophorus lithodactyla* (right). Caterpillars breed in Fleabane flowers. 20.07.2023.



The deadwood-breeding pin-tail Mordellid beetle *Variimorda villosa*. 29.07.2023 The right hand photo shows this beetle (centre) and 3 other metallic green beetles *Oedemera lurida* on the flowerhead of Wild Carrot at the Triangle, A maroon single flower in the centre is normal for Wild Carrot.



***Paraphotistus nigricornis*.** A rare click beetle swept from a ride at the Triangle on 25.08.2023. Note the golden hairs which tend to rub off. Photo from my personal photo archive, from Oxford Meadows SAC in 2016, a site a short distance to the south-west of the Triangle.



Agrilus viridis a Nationally Scarce metallic blue-green Buprestid beetle swept from Willow coppice area as single individuals on 09.06, 23.06, 14.07 and 04.08 in 2024. A deadwood breeding species.



Three deadwood-breeding Longhorn Beetles found on flowers in the Triangle. Spotted Longhorn beetles *Rutpela maculata*, mating pair on Hogweed flowers (left). Four-spotted Longhorn *Leptura quadrifasciata* on Teasel flowers (centre) and Black-striped Longhorn

Stenurella melanura on Rose flower (right). All common, but spectacular deadwood breeding beetles. Various dates in July and August.



Narrow-leaved Bird's-foot Trefoil *Lotus tenuis* (Scarce in Oxon, in county Rare Plants Register) on 09.07.2023 in a ride (left) and **Corn Mint** *Mentha arvensis* under Osier coppice (on New England Red List) 29.07.2023 (right).



Sweet Briar (Eglantine, apple scented leaves) wild rose *Rosa rubiginosa* (top) and the rare small-leaved **hybrid white-flowered Sweet Briar Rose** (also apple scented, below right and left) that awaits identification by a wild rose expert. This last only one shrub on the eastern ride along the wire fence line. Photos 07.09.2023 and 30.06.2024.



Male Osier willow catkins flowering on 24.02.2024. Food for early flying insects, providing nectar and pollen which can also taken by birds such as Blue Tits, example here.



Harvest Mouse *Micromys minutus* old nest found in willow coppice on 29.03.2024



Common spotted orchids *Dactylorhiza fuchsii* (left) and Pyramidal orchid *Anacamptis pyramidalis* (right) willow coppice area, surrounded by Common Fleabane plants, 09.06.2024



Early Marsh Orchid *Dactylorhiza incarnata* 25.05.2024, Southern Marsh orchid *Dactylorhiza praetermissa* and hybrid Common spotted x Southern marsh orchid *D. x grandis* 06.06.2024



Fungi. Sweet Poison Pie *Hebeloma sacchariolens* (left) and a Fibre cap *Inocybe* sp. (right).

Both mycorrhizal with the roots of the Willows (Osiers) 12.08.2023 & 29.07.2023.



Rare **Aniseed Scented Bracket** *Trametes suaveolens* on dead wood of eight old Osier coppice stools
on 17.02.2024

Appendix II Conservation Status and Tables of Species Recorded in the Triangle

(YELLOW highlighting indicates species of especial note or designated Conservation Status - see discussions in main text above)

Conservation Status definitions and criteria for rarity:

UKBAP - UK Biodiversity Action Plan Priority Species, now known as **Species of Principal Importance or Section 41** species in the NERC Act 2006.

RDB - Red Data Book listed

RDB1 - Endangered (at risk of extinction)

RDB2 -Vulnerable (species declining or in vulnerable habitats, or with low populations, likely to move to Endangered due to factors such as habitat destruction)

RDB3 – Rare / Lower Risk (Near Threatened) (small populations, at risk, species estimated to exist in only 15 or fewer modern 10km squares nationally)

NT - Near Threatened (as above)

N or NS Notable / Nationally Scarce - Lower Risk species estimated to occur within the range of only 16-100 modern 10km squares nationally ('a' category more uncommon than 'b' category)

Local - Restricted distribution, usually confined to specific habitats

RPR - Rare Plants Register for Oxfordshire, produced by the Ashmolean Natural History Society of Oxfordshire (published as ‘Oxfordshire’s Threatened Plants’). A species is included in the final register, if it occurs in 10 or fewer sites in the county (scarce) and three or fewer sites (rare). Also included are all species on the UKBAP priority list, irrespective of how common they are in Oxfordshire, and species on the national red list.

The Triangle	Species Surveys	Judith A Webb	centre SP4986 1206	2023&2024			
Scientific name	Common name	group	date	Abundance	Method	Habitat	Comment
PLANTS, INC HORSETAIL & MOSSES							
<i>Acer campestre</i>	Field Maple	flowering plant	29.07.2023	numerous	field observation	hedge line along eastern side	
<i>Agrimonia eupatoria</i>	Agrimony	flowering plant	25.06.2023	rare	field observation	willow coppice/flowery rides	drier areas
<i>Agrostis gigantea</i>	Black Bent	flowering plant	12.08.2023	locally frequent	field observation	willow coppice/flowery rides	east and southern side
<i>Agrostis stolonifera</i>	Creeping Bent	flowering plant	25.06.2023	frequent	field observation	willow coppice/flowery rides	
<i>Ajuga reptans</i>	Bugle	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	wetter areas
<i>Alliaria petiolata</i>	Garlic Mustard	flowering plant	09.07.2023	rare	field observation	under trees on west side tree belt	
<i>Alopecurus geniculatus</i>	Marsh Foxtail	flowering plant	29.07.2023	1 x 4m patch	field observation	willow coppice/flowery rides	east wettest area
<i>Anacamptis pyramidalis</i>	Pyramidal Orchid	flowering plant	25.06.2023	43	field observation	willow coppice/flowery rides	
<i>Anacamptis pyramidalis</i>	Pyramidal Orchid	flowering plant	23.06.2024	numerous -100s	field observation	willow coppice/flowery rides	
<i>Anagallis arvensis</i>	Scarlet Pimpernel	flowering plant	09.07.2023	rare	field observation	willow coppice/flowery rides	
<i>Arctium minus</i>	Lesser Burdock	flowering plant	29.07.2023	1	field observation	willow coppice/flowery rides	
<i>Arrhenatherum elatius</i>	False Oat-grass	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	
<i>Aster sp.</i>	Michaelmas Daisy	flowering plant	25.06.2023	locally frequent	field observation	scrub & rides	northern area
<i>Barbarea vulgaris</i>	Winter Cress	flowering plant	09.06.2024	rare	field observation	willow coppice/flowery rides	
<i>Bellis perennis</i>	Common Daisy	flowering plant	25.06.2023	rare	field observation	near entrance, path	east side
<i>Betula pendula</i>	Silver Birch	flowering plant	12.08.2023	rare	field observation	scrub	northern area
<i>Betula pubescens</i>	Brown Birch	flowering plant	12.08.2023	rare	field observation	scrub	northern area
<i>Brachypodium sylvaticum</i>	Wood False-brome	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	south side
<i>Bromopsis ramosa</i>	Hairy Brome	flowering plant	29.07.2023	rare	field observation	woodland margin	east side
<i>Bromus hordeaceus</i>	Soft Brome	flowering plant	25.06.2023	locally frequent	field observation	willow coppice/flowery rides	
<i>Bromus racemosus</i>	Smooth Brome	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	
<i>Calamagrostis epigejos</i>	Wood Small-reed	flowering plant	29.07.2023	large clonal patch	field observation	willow coppice/flowery rides	
<i>Calystegia sepium</i>	Hedge Bindweed	flowering plant	25.06.2023	locally frequent	field observation	marginal scrub/tree belt	
<i>Cardamine pratensis</i>	Cuckoo Flower	flowering plant	25.06.2023	rare	field observation	willow coppice/flowery rides	
<i>Carex disticha</i>	Brown sedge	flowering plant	29.07.2023	rare 2 patches	field observation	willow coppice/flowery rides	
<i>Carex flacca</i>	Glaucous Sedge	flowering plant	25.06.2023	locally frequent	field observation	willow coppice/flowery rides	
<i>Carex hirta</i>	Hairy Sedge	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	
<i>Carex otrubae</i>	False Fox-sedge	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	
<i>Carex pendula</i>	Pendulous Sedge	flowering plant	25.06.2023	locally frequent	field observation	willow coppice/flowery rides	wet SE corner
<i>Carex remota</i>	Remote Sedge	flowering plant	09.07.2023	rare	field observation	marginal hedge/tree belt	Frieze way side
<i>Carex riparia</i>	Greater Pond-sedge	flowering plant	09.07.2023	one 5m patch	field observation	willow coppice/flowery rides	west side
<i>Carex spicata</i>	Spiked Sedge s.l.	flowering plant	25.06.2023	rare	field observation	willow coppice/flowery rides	
<i>Carex sylvatica</i>	Wood Sedge	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	
<i>Centaurea nigra</i>	Black knapweed	flowering plant	12.08.2023	1 plant	field observation	northern scrub area	
<i>Centaureum erythraea</i>	Common Centaury	flowering plant	09.07.2023	rare	field observation	willow coppice/flowery rides	
<i>Cirsium arvense</i>	Creeping Thistle	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	
<i>Cirsium palustre</i>	Marsh Thistle	flowering plant	23.06.2024	5	field observation	willow coppice/flowery rides	
<i>Cornus sanguinea</i>	Dogwood	flowering plant	09.07.2023	occasional	field observation	scrub	northern area
<i>Corylus avellana</i>	Hazel	flowering plant	09.07.2023	occasional	field observation	scrub	northern area

The Triangle	Species Surveys	Judith A Webb	centre SP4986 1206	2023&2024			
Scientific name	Common name	group	date	Abundance	Method	Habitat	Comment
<i>Crataegus monogyna</i>	Common Hawthorn	flowering plant	25.06.2023	frequent	field observation	marginal scrub/trees & coppice	
<i>Cynosurus cristatus</i>	Crested Dog's Tail	flowering plant	09.07.2023	rare	field observation	willow coppice/flowery rides	
<i>Dactylis glomerata</i>	Cocksfoot grass	flowering plant	25.06.2023	rare	field observation	willow coppice/flowery rides	
<i>Dactylorhiza fuchsii</i>	Common Spotted Orchid	flowering plant	25.06.2023	43	field observation	willow coppice and flowery rides	
<i>Dactylorhiza fuchsii</i>	Common Spotted Orchid	flowering plant	09.06.2024	numerous - 100s	field observation	willow coppice and flowery rides	
<i>Dactylorhiza incarnata</i>	Early Marsh Orchid	flowering plant	09.06.2024	1 flower spike	field observation	willow coppice and flowery rides	
<i>Dactylorhiza praetermissa</i>	Southern Marsh Orchid	flowering plant	09.06.2024	11 flower spikes	field observation	willow coppice and flowery rides	
<i>Dactylorhiza x grandis</i>	Com spot.d x South Marsh	flowering plant	09.06.2024	12 flower spikes	field observation	willow coppice and flowery rides	
<i>Daucus carota</i>	Wild Carrot	flowering plant	25.06.2023	locally frequent	field observation	willow coppice/flowery rides	
<i>Deschampsia cespitosa</i>	Tufted Hair-grass	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	
<i>Dioscorea communis</i>	Black Bryony	flowering plant	29.07.2023	rare	field observation	woodland margin	East hedge
<i>Dipsacus fullonum</i>	Teasel	flowering plant	25.06.2023	occasional	field observation	open rides in wetter ruts	
<i>Eleocharis palustris</i>	Common Spike-rush	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	east wettest area
<i>Elymus repens</i>	Common Couch or Twitch	flowering plant	25.06.2023	locally frequent	field observation	willow coppice/flowery rides	
<i>Epilobium hirsutum</i>	Great Willow-herb	flowering plant	09.07.2023	locally frequent	field observation	willow coppice/flowery rides	winter wettest areas
<i>Epilobium parviflorum</i>	Hoary willow herb	flowering plant	12.08.2023	rare	field observation	willow coppice/flowery rides	
<i>Epilobium tetragonum</i>	Square-stalked Willow-herb	flowering plant	09.07.2023	onal to locally fr	field observation	willow coppice/flowery rides	
<i>Erigeron acer</i>	Blue Fleabane	flowering plant	29.07.2023	1 plant	field observation	willow coppice/flowery rides	
<i>Euonymus europaeus</i>	Spindle	flowering plant	29.07.2023	1	field observation	scrub on margin	
<i>Eupatorium cannabinum</i>	Hemp Agrimony	flowering plant	25.06.2023	occasional	field observation	scrub/flowery area	northern area
<i>Festuca rubra</i>	Red Fescue	flowering plant	09.07.2023	rare	field observation	willow coppice/flowery rides	
<i>Galium aparine</i>	Cleavers	flowering plant	25.06.2023	rare	field observation	willow coppice/flowery rides	
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	flowering plant	25.06.2023	frequent	field observation	willow coppice/flowery rides	
<i>Glechoma hederacea</i>	Ground Ivy	flowering plant	25.06.2023	occasional	field observation	margins nr woodland	
<i>Helminthotheca echioides</i>	Prickly Ox-tongue	flowering plant	25.06.2023	locally frequent	field observation	willow coppice/flowery rides	
<i>Heracleum sphondylium</i>	Hogweed	flowering plant	09.07.2023	occasional	field observation	willow coppice/flowery rides	south side
<i>Holcus lanatus</i>	Yorkshire Fog	flowering plant	25.06.2023	frequent	field observation	willow coppice/flowery rides	
<i>Hypericum hirsutum</i>	Hairy St John's-wort	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	
<i>Hypericum perforatum</i>	Perforate St John's-wort	flowering plant	25.06.2023	rare	field observation	willow coppice/flowery rides	
<i>Hypericum tetrapetrum</i>	Square-stalked St John's W	flowering plant	09.07.2023	occasional	field observation	willow coppice/flowery rides	
<i>Jacobaea erucifolia</i>	Hoary Ragwort	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	
<i>Jacobaea vulgaris</i>	Common Ragwort	flowering plant	09.07.2023	occasional	field observation	willow coppice/flowery rides	
<i>Juncus conglomeratus</i>	Compact Rush	flowering plant	25.06.2023	locally frequent	field observation	willow coppice/flowery rides	wettest west side
<i>Juncus effusus</i>	Soft Rush	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	wettest west side
<i>Juncus inflexus</i>	Hard Rush	flowering plant	25.06.2023	locally frequent	field observation	willow coppice/flowery rides	wettest west side
<i>Lathyrus nissolia</i>	Grass Vetchling	flowering plant	25.06.2023	locally frequent	field observation	willow coppice/flowery rides	
<i>Leucanthemum vulgare</i>	Oxeye Daisy	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	
<i>Lolium perenne</i>	Perennial Rye	flowering plant	25.06.2023	locally frequent	field observation	willow coppice/flowery rides	
<i>Lotus corniculatus</i>	Bird's-foot Trefoil	flowering plant	29.07.2023	occasional	field observation	willow coppice/flowery rides	drier areas to north

The Triangle	Species Surveys	Judith A Webb	centre SP4986 1206	2023&2024			
Scientific name	Common name	group	date	Abundance	Method	Habitat	Comment
<i>Lotus pedunculatus</i>	Greater Bird's-foot Trefoil	flowering plant	09.07.2023	locally frequent	field observation	willow coppice/flowery rides	
<i>Lotus tenuis</i>	Narrow-leaved Bird's-foot	flowering plant	09.07.2023	5 small clumps	field observation	willow coppice/flowery rides	south side, winter wet area
<i>Medicago lupulina</i>	Black Medick	flowering plant	25.06.2023	occasional	field observation	open rides and wayleave area	
<i>Melilotus officinalis</i>	Ribbed Melilot	flowering plant	29.07.2023	1 plant	field observation	willow coppice/flowery rides	
<i>Mentha arvensis</i>	Corn Mint	flowering plant	29.07.2023	locally frequent	field observation	willow coppice/flowery rides	
<i>Myosotis arvensis</i>	Field Forget-me-not	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	
<i>Neottia ovata</i>	Twayblade	flowering plant	06.05.2024	2 clumps	field observation	willow coppice/flowery rides	southern side
<i>Odontites vernus</i>	Red Bartsia	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	
<i>Pastenaca sativa</i>	Wild Parsnip	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	
<i>Persicaria amphibia</i>	Amphibious Bistort	flowering plant	09.07.2023	rare	field observation	willow coppice/flowery rides	
<i>Phleum bertolonii</i>	Smaller Cat's-tail	flowering plant	09.07.2023	occasional	field observation	willow coppice/flowery rides	
<i>Phragmites australis</i>	Common Reed	flowering plant	04.08.2024	rare	field observation	willow coppice	west side
<i>Plantago lanceolata</i>	Ribwort Plantain	flowering plant	25.06.2023	rare	field observation	willow coppice/flowery rides	
<i>Plantago major</i>	Greater Plantain	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	
<i>Poa nemoralis</i>	Wood Meadow-grass	flowering plant	29.07.2023	rare	field observation	woodland margin bank	next Frieze way
<i>Poa trivialis</i>	Rough-stalked Meadow-grass	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	
<i>Potentilla anserina</i>	Silverweed	flowering plant	23.09.2023	rare	field observation	willow coppice/flowery rides	south wet area
<i>Potentilla reptans</i>	Cinquefoil	flowering plant	25.06.2023	locally abundant	field observation	willow coppice/flowery rides	
<i>Prunella vulgaris</i>	Self-heal	flowering plant	25.06.2023	locally frequent	field observation	willow coppice/flowery rides	
<i>Prunus spinosa</i>	Blackthorn	flowering plant	25.06.2023	locally frequent	field observation	hedgerows and Willow coppice	
<i>Pulicaria dysenterica</i>	Common Fleabane	flowering plant	25.06.2023	abundant	field observation	willow coppice/flowery rides	
<i>Quercus robur</i>	Pedunculate Oak	flowering plant	09.07.2023	occasional	field observation	marginal hedge/tree belt	
<i>Rhamnus cathartica</i>	Purging Buckthorn	flowering plant	25.06.2023	rare	field observation	marginal hedge/scrub and tree belt	
<i>Rosa canina</i>	Dog Rose	flowering plant	25.06.2023	occasional	field observation	marginal hedge/scrub and tree belt	
<i>Rosa canina hybrids</i>	hybrid Dog Roses	flowering plant	25.06.2023	occasional	field observation	marginal hedge/scrub and tree belt	
<i>Rosa rubiginosa</i>	Sweet Briar rose	flowering plant	25.06.2023	occasional	field observation	within coppice area and margins	mostly southern end
<i>Rosa sp., agrestis hybrid</i>	small-leaved Sweet Briar hybrid	flowering plant	25.06.2023	1 bush	field observation	marginal hedge/scrub and tree belt	east side next wire fence
<i>Rubus cespitosus</i>	Dewberry	flowering plant	25.06.2023	locally frequent	field observation	marginal hedge/scrub and tree belt	
<i>Rubus fruticosus agg.</i>	Bramble	flowering plant	25.06.2023	locally frequent	field observation	marginal hedge/scrub and tree belt	
<i>Rumex conglomeratus</i>	Clustered Dock	flowering plant	09.07.2023	occasional	field observation	willow coppice/flowery rides	
<i>Rumex crispus</i>	Curled Dock	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	wettest areas
<i>Rumex obtusifolius</i>	Broad-leaved Dock	flowering plant	25.06.2023	rare	field observation	willow coppice/flowery rides	
<i>Rumex sanguineus</i>	Wood Dock	flowering plant	25.06.2023	locally frequent	field observation	willow coppice/flowery rides	
<i>Salix cinerea</i>	Grey Willow or Sallow	flowering plant	25.06.2023	locally frequent	field observation	scrub/woodland strips& coppice	
<i>Salix fragilis</i>	Crack Willow	flowering plant	09.07.2023	rare	field observation	marginal hedge/tree belt	western side n
<i>Salix viminalis</i>	Osier or basket willow	flowering plant	25.06.2023	abundant	field observation	willow coppice, site centre	
<i>Sambucus nigra</i>	Elder	flowering plant	09.07.2023	occasional	field observation	marginal hedge/tree belt	

The Triangle	Species Surveys	Judith A Webb	centre SP4986 1206	2023&2024			
Scientific name	Common name	group	date	Abundance	Method	Habitat	Comment
<i>Schedonorus arundinaceus</i>	Tall Fescue	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	
<i>Sison amomum</i>	Stone Parsley	flowering plant	09.07.2023	occasional	field observation	willow coppice/flowery rides	north side
<i>Sonchus arvensis</i>	Perennial Sow-thistle	flowering plant	06.08.2023	rare	field observation	willow coppice/flowery rides	
<i>Stachys sylvatica</i>	Hedge Woundwort	flowering plant	29.07.2023	rare	field observation	woodland margin	west side
<i>Torilis japonica</i>	Upright Hedge Parsley	flowering plant	25.06.2023	rare	field observation	willow coppice/flowery rides	
<i>Trifolium campestre</i>	Hop Trefoil	flowering plant	25.06.2023	rare	field observation	willow coppice/flowery rides	
<i>Trifolium pratense</i>	Red Clover	flowering plant	25.06.2023	rare	field observation	willow coppice/flowery rides	, near entrance
<i>Trifolium repens</i>	White Clover	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	
<i>Tripleurospermum inodorum</i>	Scentless Mayweed	flowering plant	25.06.2023	rare	field observation	willow coppice/flowery rides	
<i>Tussilago farfara</i>	Coltsfoot	flowering plant	29.07.2023	rare	field observation	willow coppice/flowery rides	
<i>Ulmus procera</i>	English Elm	flowering plant	25.06.2023	locally frequent	field observation	woodland/hedge strip	east side woodland/hedge
<i>Ulmus sp.cf. U minor</i>	poss. Small-leaved Elm	flowering plant	25.06.2023	locally frequent	field observation	woodland/hedge strip	west side hedge/woodland
<i>Urtica dioica</i>	Common Nettle	flowering plant	25.06.2023	occasional	field observation	site margins to woodland	
<i>Veronica persica</i>	Common Field-speedwell	flowering plant	06.08.2023	rare	field observation	willow coppice/flowery rides	
<i>Veronica serpyllifolia</i>	Thyme-leaved Speedwell	flowering plant	25.06.2023	rare	field observation	willow coppice/flowery rides	
<i>Viburnum opulus</i>	Guelder Rose	flowering plant	29.07.2023	few	field observation	scrub	northern area
<i>Vicia cf. narbonensis</i>	possibly a fodder vetch	flowering plant	09.07.2023	2 plants	field observation	willow coppice/flowery rides	
<i>Vicia cracca</i>	Tufted Vetch	flowering plant	25.06.2023	occasional	field observation	marginal scrub/woodland tree belts	
<i>Vicia sativa</i>	Common Vetch	flowering plant	25.06.2023	occasional	field observation	willow coppice/flowery rides	
<i>Vicia tetrasperma</i>	Smooth Tare	flowering plant	25.06.2023	locally abundant	field observation	willow coppice/flowery rides	
<i>Viola sp</i>	a violet	flowering plant	12.08.2023	rare	field observation	western margin	
<i>Equisetum arvense</i>	Field Horsetail	horsetail	25.06.2023	occasional	field observation	willow coppice/flowery rides	
<i>Brachythecium rutabulum</i>	Rough-stalked Feather-moss	moss	25.06.2023	locally frequent	field observation	willow coppice/flowery rides	
<i>Calliergonella cuspidata</i>	Common Spear-moss	moss	25.06.2023	locally frequent	field observation	willow coppice/flowery rides	wetter areas
<i>Cratoneuron filicinum</i>	Fern-leaved Hook -moss	moss	09.07.2023	rare	field observation	willow coppice/flowery rides	winter wettest areas
<i>Drepanocladus aduncus</i>	Kneiff's Hook-moss	moss	25.06.2023	locally frequent	field observation	willow coppice/flowery rides	winter wettest areas
FUNGI							
<i>Hebeloma sacchariolum</i>	Sweet Poisonpie	fungus	12.08.2023	5 caps	field observation	willow coppice/flowery rides	with roots of grey willow
<i>Inocybe sp</i>	a fibre cap toadstool	fungus	29.07.2023	1	field observation	willow coppice/flowery rides	with roots of willow
<i>Laccaria laccata</i>	The Deciever	fungus	06.08.2023	4 caps	field observation	under fence east side	east side margin
<i>Phellinus pomaceus</i>	Cushion Bracket	fungus	06.08.2023	1 bracket	field observation	marginal scrub	on dead blackthorn
<i>Psathyrella candoleana</i>	Common Brittlestem	fungus	12.08.2023	2 toadstools	field observation	willow coppice/flowery rides	on soil
<i>Trametes suaveolens</i>	Fragrant Bracket fungus	fungus	17.02.2024	on 8 stools	field observation	on cut willow coppice stool	on deadwood
<i>Trametes versicolor</i>	Turkey tail	fungus	17.02.2024	on 11 stools	field observation	on cut willow coppice stool	on deadwood

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Scientific name	Common name	group	date	Abundance	Method	Habitat	Comment
ANIMALS							
VERTEBRATES							
<i>Rana temporaria</i>	Common Frog	amphibian	06.08.2023	5 juveniles	field observation	willow coppice/flowery rides	2-3cm juveniles
<i>Rana temporaria</i>	Common Frog	amphibian	12.08.2023	1 juvenile	field observation	willow coppice/flowery rides	open grassy flowery rides
<i>Rana temporaria</i>	Common Frog	amphibian	29.07.2023	1 adult	field observation	willow coppice/flowery rides	
<i>Rana temporaria</i>	Common Frog	amphibian	23.09.2023	1 juvenile	field observation	willow coppice/flowery rides	
<i>Bufo bufo</i>	Common Toad	amphibian	23.06.2024	1	field observation	willow coppice/flowery rides	under plastic sheet
<i>Capreolus capreolus</i>	Roe Deer	mammal	29.07.2023	1	field observation	willow coppice/flowery rides	
<i>Capreolus capreolus</i>	Roe Deer	mammal	12.08.2023	1 female	field observation	willow coppice/flowery rides	southern ride
<i>Capreolus capreolus</i>	Roe Deer	mammal	11.12.2023	1f	field observation	willow coppice/flowery rides	
<i>Chiroptera</i>	Bats	mammal	28.08.2024	present	field observation	willow coppice/flowery rides	circling over moth light
<i>Chiroptera</i>	Bats	mammal	10.08.2024	present	field observation	willow coppice/flowery rides	circling over moth light
<i>Micromys minutus</i>	Harvest Mouse	mammal	29.03.2024	1 nest	field observation	willow coppice/flowery rides	
<i>Microtus agrestis</i>	Field Vole	mammal	04.08.2024	1	field observation	willow coppice/flowery rides	under dumped carpet
<i>Muntiacus reevesii</i>	Muntjac deer	mammal	25.06.2023	1	field observation	woodland margin	heard barking
<i>Nyctalus noctula</i>	Noctule	mammal	22.09.2023	present	Aural Bat Detector	open ride next woodland	West and south sides
<i>Pipistrellus pygmaeus</i>	Soprano pipistrelle	mammal	22.09.2023	present	Aural Bat Detector	open ride next woodland	south side rid
<i>Accipiter nisus</i>	Sparrowhawk	bird	28.07.2024	2	field observation	willow coppice/flowery rides	pair calling
<i>Aegithalos caudatus</i>	Long-tailed tit	bird	01.10.2023	4	field observation	willow coppice/flowery rides	
<i>Carduelis carduelis</i>	Goldfinch	bird	30.06.2024	4	field observation	willow coppice/flowery rides	
<i>Cyanistes caeruleus</i>	Blue Tit	bird	01.10.2023	1	field observation	willow coppice/flowery rides	
<i>Cyanistes caeruleus</i>	Blue Tit	bird	17.02.2024	1	field observation	willow coppice/flowery rides	
<i>Locustella naevia</i>	Grasshopper Warbler	bird	23.06.2024	1	field observation (heard)	willow coppice/flowery rides	calling
<i>Parus major</i>	Great Tit	bird	07.09.2023	1	field observation	scrub	feeding in willow coppice
<i>Parus major</i>	Great Tit	bird	01.10.2023	1	field observation	willow coppice/flowery rides	
<i>Phylloscopus collybita</i>	Chiff chaff	bird	25.06.2023	1	field observation	scrub woodland margins	heard calling
<i>Picus viridis</i>	Green Woodpecker	bird	11.05.2024	1	field observation	willow coppice/flowery rides	
<i>Prunella modularis</i>	Dunnock	bird	17.02.2024	1	field observation	willow coppice/flowery rides	
<i>Troglodytes troglodytes</i>	Wren	bird	09.07.2023	1	field observation	willow coppice/flowery rides	heard singing
<i>Troglodytes troglodytes</i>	Wren	bird	29.07.2023	2 fledglings	field observation	willow coppice/flowery rides	
INVERTEBRATES							
<i>Araniella cucurbitina</i>	a spider	arachnida	06-08-23	2f	swept	willow coppice/flowery rides	
<i>Diaea dorsata</i>	a spider	arachnida	23.09.2023	1m	swept	oak tree	swept from west side
<i>Dicranopalpus ramosus s.str.</i>	harvestman	arachnida	07-09-23	1f	swept	willow coppice/flowery rides	
<i>Dicranopalpus ramosus s.str.</i>	harvestman	arachnida	19-08-23	2f	swept	willow coppice/flowery rides	
<i>Dictyna sp.</i>	a spider	arachnida	01.10.2023	immatures	swept	willow coppice/flowery rides	

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<i>Enoplognatha cf latimana</i>	a spider	arachnida	06-08-23	1f	swept	willow coppice/flowery rides	
<i>Heliophanes flavipes</i>	a spider	arachnida	07-09-23	1f	swept	willow coppice/flowery rides	
<i>Metellina segmentata</i>	a spider	arachnida	19-08-23	1f	swept	willow coppice/flowery rides	
<i>Opilio canestri</i>	harvestman	arachnida	07-09-23	2	swept	willow coppice/flowery rides	
<i>Philodromus cespitum</i>	a spider	arachnida	09-07-23	1f	swept	willow coppice/flowery rides	
<i>Pisaura mirabilis</i>	Nursery Web Spider	arachnida	07.09.2023	immature	swept	willow coppice/flowery rides	
<i>Tetragnatha montana</i>	a spider	arachnida	09-07-23	1f	swept	willow coppice/flowery rides	
<i>Theridion pictum</i>	a spider	arachnida	09-07-23	1f	swept	willow coppice/flowery rides	
<i>Xysticus cristatus</i>	a spider	arachnida	01.10.2023	1f	swept	willow coppice/flowery rides	
<i>Xysticus sp.</i>	a spider	arachnida	07-09-23	1 juv	swept	willow coppice/flowery rides	
<i>Tibellus oblongus</i>	a spider	arachnida	11.05.2024	1f	swept	willow coppice/flowery rides	
<i>Misumena vatia</i>	flower spider	arachnida	04.08.2024	1f	swept	willow coppice/flowery rides	
<i>Zelotes sp.</i>	a black spider	arachnida	04.08.2024	immature male	tubed	under dumped carpet	
<i>Araneus sp</i>	a spider	arachnida	25.06.2023	1	swept	willow coppice/flowery rides	
<i>Tetragnatha sp</i>	a stretch spider	arachnida	09.07.2023	1	swept	willow coppice/flowery rides	
<i>Tibellus oblongus</i>	a spider	arachnida	06.08.2023	1	swept	willow coppice/flowery rides	
<i>Agabus bipustulatus</i>	a water beetle	beetle	25.05.2024	1m	dip-netted	in shallow temporary grassy pool	east side fence
<i>Agrilus viridis</i>	Beech Splendour beetle	beetle	09.06.2024	1m	swept	willow coppice/deadwood	
<i>Agrilus viridis</i>	Beech Splendour beetle	beetle	23.06.2024	1f	swept	willow coppice/deadwood	
<i>Agrilus viridis</i>	Beech Splendour beetle	beetle	14.07.2024	1m	swept	willow coppice/deadwood	
<i>Agrilus viridis</i>	Beech Splendour beetle	beetle	04.08.2024	1m	swept	willow coppice/deadwood	
<i>Aleochara brevipennis</i>	staphylinid beetle	beetle	23.06.2024	1f	swept	willow coppice/flowery rides	
<i>Altica lythri</i>	a flea beetle	beetle	09.07.2023	2	swept	willow coppice/flowery rides	
<i>Anacaena limbata</i>	a water beetle	beetle	25.05.2024	1m	dip-netted	in shallow temporary grassy pool	east side fence
<i>Anacaena lutescens</i>	a water beetle	beetle	25.05.2024	1f	dip-netted	in shallow temporary grassy pool	east side fence
<i>Anaspis fasciata</i>	a Scaptiid beetle	beetle	11.05.2024	1f	swept	hawthorn fls, hedge	breeds in deadwood
<i>Anaspis frontalis</i>	a Scaptiid beetle	beetle	11.05.2024	1m,1f	swept	hawthorn fls, hedge	breeds in deadwood
<i>Anaspis maculata</i>	a Scaptiid beetle	beetle	11.05.2024	2m,2f	swept	hawthorn fls, hedge	breeds in deadwood
<i>Aphthona lutescens</i>	a leaf beetle	beetle	29.07.2023	1	swept	willow coppice/flowery rides	
<i>Aphthona lutescens</i>	a beetle	beetle	23.09.2023	3f	swept	willow coppice/flowery rides	
<i>Atheta aquatica</i>	a staphylinid beetle	beetle	29.07.2023	1f	swept	willow coppice/flowery rides	
<i>Bruchus loti</i>	a seed weevil	beetle	14.07.2024	1f	swept	willow coppice/flowery rides	
<i>Cantharis nigra</i>	a soldier beetle	beetle	14.07.2024	1m	swept	willow coppice/flowery rides	
<i>Cassida rubiginosa group</i>	a Tortoise beetle	beetle	25.05.2024	1	swept	willow coppice/flowery rides	
<i>Cassida rubiginosa group</i>	a tortoise beetle	beetle	29.07.2023	1	field observation	willow coppice/flowery rides	
<i>Chaetocnema concinna</i>	Mangold Flea Beetle	beetle	09.07.2023	1	swept	willow coppice/flowery rides	

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<i>Chaetocnema hortensis</i>	a beetle	beetle	23.09.2023	1m	swept	willow coppice/flowery rides	
<i>Coccidula rufa</i>	a small ladybird	beetle	29.07.2023	1	swept	willow coppice/flowery rides	
<i>Coccinella septempunctata</i>	Seven-spot Ladybird	beetle	25.06.2023	6	swept	willow coppice/flowery rides	
<i>Coccinella septempunctata</i>	7 spot ladybird	beetle	16.08.2024	9	swept	willow coppice/flowery rides	
<i>Corticaria gibbosa</i>	a beetle	beetle	23.09.2023	1m	swept	willow coppice/flowery rides	
<i>Crepidodera aurata</i>	Willow Flea Beetle	beetle	09.07.2023	2	swept	willow coppice/flowery rides	
<i>Crepidodera fulvicornis</i>	a leaf beetle	beetle	29.07.2023	1	swept	willow coppice/flowery rides	
<i>Crepidodera plutus</i>	a leaf beetle	beetle	29.07.2023	1	swept	willow coppice/flowery rides	
<i>Cryptocephalus moraei</i>	a leaf beetle	beetle	25.06.2023	1	swept	willow coppice/flowery rides	from St John's Wort
<i>Cryptocephalus pusillus</i>	a leaf beetle (Chrysomellida)	beetle	09.07.2023	3	swept	willow coppice/flowery rides	
<i>Curculio glandium</i>	oak acorn weevil	beetle	04.08.2024	1	swept	willow coppice/flowery rides	swept from oak foliage on r
<i>Dasytes aeratus</i>	a Melyrid beetle	beetle	11.05.2024	1m,1f	swept	swept from hawthorn fls, eastern hedge	breeds in deadwood
<i>Exochomus quadripustulatus</i>	Pine Ladybird	beetle	07.09.2023	3	swept	willow coppice/flowery rides	beaten from oak foliage
<i>Galerucella lineola</i>	Brown Willow Beetle	beetle	09.07.2023	5	swept	willow coppice/flowery rides	
<i>Gastrophysa viridula</i>	Green Dock Beetle	beetle	25.06.2023	1	swept	willow coppice/flowery rides	
<i>Gastrophysa viridula</i>	Green Dock Beetle	beetle	09.07.2023	3	swept	willow coppice/flowery rides	
<i>Gastrophysa viridula</i>	dock beetle	beetle	14.07.2024	1f	swept	willow coppice/flowery rides	
<i>Grammoptera ruficornis</i>	Common Grammotera	beetle	11.05.2024	2	swept	hawthorn fls, eastern hedge	breeds in deadwood
<i>Harmonia axyridis</i>	Harlequin Ladybird	beetle	06.08.2023	2	swept	willow coppice/flowery rides	
<i>Harmonia axyridis</i>	Harlequin Ladybird	beetle	07.09.2023	1	swept	willow coppice/flowery rides	
<i>Harmonia axyridis</i>	harlequin ladybird	beetle	16.08.2024	8	swept	willow coppice/flowery rides	
<i>Harmonia axyridis</i>	Harlequin Ladybird	beetle	23.06.2024	1	swept	willow coppice/flowery rides	
<i>Harmonia axyridis</i>	harlequin ladybird	beetle	04.08.2024	1	swept	willow coppice/flowery rides	
<i>Helophorus aequalis</i>	a water beetle	beetle	25.05.2024	2m,2f	dip-netted	in shallow temporary grassy pool	east side fence
<i>Helophorus brevipalpis</i>	a water beetle	beetle	25.05.2024	7f	dip-netted	in shallow temporary grassy pool	east side fence
<i>Helophorus flavipes</i>	a water beetle	beetle	25.05.2024	1f	dip-netted	in shallow temporary grassy pool	east side fence
<i>Heterocerus fenestratus</i>	a mud-loving beetle	beetle	10.08.2024	1f	Skinner light moth trap	willow coppice/flowery rides	in northern ride area
<i>Hydrobius fuscipes</i>	a water beetle	beetle	10.08.2024	2f	Skinner light moth trap	willow coppice/flowery rides	in northern ride area
<i>Hydroporus planus</i>	a water beetle	beetle	25.05.2024	1m	dip-netted	in shallow temporary grassy pool	east side fence
<i>Hydroporus planus</i>	a water beetle	beetle	06.05.2024	3f	dip netted	in water filled ruts	
<i>Hydroporus pubescens</i>	a water beetle	beetle	06.05.2024	1m	dip netted	in water filled ruts	
<i>Hydroporus tessellatus</i>	a water beetle	beetle	25.05.2024	2m	dip-netted	in shallow temporary grassy pool	east side fence
<i>Hydroporus tessellatus</i>	a water beetle	beetle	06.05.2024	2f	dip netted	in water filled ruts	
<i>Hypera meles</i>	a weevil	beetle	29.07.2023	1	swept	willow coppice/flowery rides	
<i>Hypera rumicis</i>	a dock weevil	beetle	14.07.2024	1m	swept	willow coppice/flowery rides	
<i>Ilybius chalconatus</i>	a water beetle	beetle	06.05.2024	1m	dip netted	in water filled ruts	southern half of site
<i>Ischnopterapion loti</i>	a beetle	beetle	23.09.2023	1f	swept	willow coppice/flowery rides	
<i>Leptura quadrifasciata</i>	Four-banded Longhorn Bee	beetle	12.08.2023	1	field observation	willow coppice/flowery rides	on teasel flowers
<i>Lochmaea caprea</i>	Willow Leaf Beetle	beetle	29.07.2023	very numerous	swept	willow coppice/flowery rides	

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Scientific name	Common name	group	date	Abundance	Method	Habitat	Comment
<i>Longitarsus luridus</i> (Scopoli)	a beetle	beetle	23.09.2023	4f	swept	willow coppice/flowery rides	
<i>Longitarsus lycopi</i> (Foudras)	a beetle	beetle	23.09.2023	2m,3f	swept	willow coppice/flowery rides	
<i>Malachius bipustulatus</i>	red tipped flower beetle	beetle	11.05.2024	6	swept	hawthorn fls, eastern hedge	
<i>Meligethes gagathinus</i>	a pollen beetle	beetle	29.07.2023	1	swept	willow coppice/flowery rides	
<i>Meligethes lugubris</i> Sturm	a pollen beetle	beetle	23.09.2023	1f	swept	willow coppice/flowery rides	
<i>Mordellochroa abdominalis</i>	a Mordellid beetle	beetle	11.05.2024	1f	swept	from hawthorn fls, eastern hedge	breeds in deadwood
<i>Oedemera lurida</i>	a flower beetle	beetle	09.07.2023	3	swept	willow coppice/flowery rides	on wild carrot flowers
<i>Oedemera lurida</i>	a flower beetle	beetle	25.05.2024	numerous	swept	willow coppice/flowery rides	
<i>Oedemera nobilis</i>	Thick-kneed Flower-beetle	beetle	09.07.2023	1f	swept	willow coppice/flowery rides	
<i>Oedemera nobilis</i>	thick-kneed flower beetle	beetle	25.05.2024	numerous	swept	willow coppice/flowery rides	
<i>Paraphotistus nigricornis</i>	a click beetle	beetle	25.06.2023	1	swept	willow coppice/flowery rides	
<i>Perapion hydrolapathi</i>	a small grey-green weevil	beetle	09.07.2023	1	swept	willow coppice/flowery rides	
<i>Phratora vulgatissima</i>	Willow Leaf Beetle	beetle	14.07.2024	1m	swept	willow coppice/flowery rides	
<i>Phratora vulgatissimus</i>	Blue Willow Beetle	beetle	29.07.2023	1	swept	willow coppice/flowery rides	
<i>Phyllotreta vittata</i>	a leaf beetle	beetle	29.07.2023	1	swept	willow coppice/flowery rides	
<i>Platynaspis luteorubra</i>	Ant Ladybird	beetle	29.07.2023	1	swept	willow coppice/flowery rides	
<i>Propylea 14 punctata</i>	14 spot Ladybird	beetle	07.09.2023	1	swept	willow coppice/flowery rides	
<i>Propylea 14-punctata</i>	14 Spot Ladybird	beetle	09.07.2023	2	swept	open grassy flowery rides	
<i>Protapion trifolii</i>	Lesser Clover Seed Weevil	beetle	09.07.2023	2	swept	willow coppice/flowery rides	
<i>Psyllobora vigintiduopunctata</i>	22 spot Ladybird	beetle	29.07.2023	1	swept	willow coppice/flowery rides	
<i>Pyrochroa serraticornis</i>	Red -headed Cardinal Beetle	beetle	11.05.2024	2	swept	hawthorn fls, eastern hedge	
<i>Rhagonycha fulva</i>	Orange Soldier Beetle	beetle	09.07.2023	numerous	swept	open rides, site margins	on hogweed flowers
<i>Rhagonycha fulva</i>	orange soldier beetle	beetle	04.08.2024	numerous	swept	willow coppice/flowery rides	
<i>Rutpela maculata</i>	Spotted Longhorn	beetle	09.07.2023	mating pair	field observation	woodland edge	on hogweed flower
<i>Rutpela maculata</i>	spotted longhorn	beetle	23.06.2024	2	swept	willow coppice/flowery rides	lots of deadwood nearby
<i>Rutpela maculata</i>	spotted longhorn beetle	beetle	25.05.2024	1	field observation	willow coppice/flowery rides	
<i>Sitona lineatus</i>	Pea Leaf Weevil	beetle	09.07.2023	1	swept	willow coppice/flowery rides	
<i>Stenurella melanura</i>	Black-striped Striped Longh	beetle	25.06.2023	1	tubed	scrub margin	on rose flower o
<i>Sunius propinquus</i>	a beetle	beetle	01.10.2023	1m	swept	willow coppice/flowery rides	
<i>Variimorda villosa</i>	a pintail beetle(Mordellidae)	beetle	09.07.2023	9	swept	willow coppice/flowery rides	breeds in deadwood
<i>Variimorda villosa</i>	a pintail beetle	beetle	16.04.2024	1	swept	willow coppice/flowery rides	breeds in deadwood
<i>Variimorda villosa</i>	a pintail beetle	beetle	23.06.2024	2	swept	willow coppice/flowery rides	breeds in deadwood
<i>Variimorda villosa</i>	a pintail beetle	beetle	04.08.2024	6	swept	willow coppice/flowery rides	breeds in deadwood
<i>Variimorda villosa</i>	a pintail beetle(Mordellidae)	beetle	07.09.2023	2	swept	willow coppice/flowery rides	breeds in deadwood
<i>Aglais io</i>	Peacock	butterfly	29.07.2023	1	field observation	willow coppice/flowery rides	
<i>Aglais io</i>	peacock	butterfly	04.08.2024	1	field observation	willow coppice/flowery rides	
<i>Anthocharis cardamines</i>	Orange Tip	butterfly	06.05.2024	1m	field observation	willow coppice/flowery rides	
<i>Anthocharis cardamines</i>	Orange Tip	butterfly	25.05.2024	1m	field observation	willow coppice/flowery rides	
<i>Aphantopus hyperantus</i>	Ringlet	butterfly	09.07.2023	1	field observation	willow coppice/flowery rides	
<i>Aphantopus hyperantus</i>	Ringlet	butterfly	23.06.2024	numerous	swept	willow coppice/flowery rides	

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Scientific name	Common name	group	date	Abundance	Method	Habitat	Comment
<i>Aphantopus hyperantus</i>	Ringlet	butterfly	23.06.2024	numerous	field observation	willow coppice/flowery rides	
<i>Aricia agrestis</i>	Brown Argus	butterfly	29.07.2023	3	swept	willow coppice/flowery rides	
<i>Celastrina argiolus</i>	Holly Blue	Butterfly	11.05.2024	1	field observation	willow coppice/flowery rides	
<i>Gonepteryx rhamni</i>	Brimstone	butterfly	09.07.2023	1m	field observation	willow coppice/flowery rides	
<i>Maniola jurtina</i>	Meadow Brown	butterfly	25.06.2023	1	field observation	willow coppice/flowery rides	
<i>Maniola jurtina</i>	Meadow Brown	butterfly	09.07.2023	2	field observation	willow coppice/flowery rides	
<i>Maniola jurtina</i>	Meadow Brown	butterfly	23.06.2024	3	field observation	willow coppice/flowery rides	
<i>Maniola jurtina</i>	meadow brown	butterfly	04.08.2024	1	field observation	willow coppice/flowery rides	
<i>Melanargia galathea</i>	Marbled White	butterfly	25.06.2023	1	field observation	willow coppice/flowery rides	
<i>Melanargia galathea</i>	Marbled White	butterfly	23.06.2024	2	field observation	willow coppice/flowery rides	
<i>Ochlodes sylvanus</i>	Large skipper	butterfly	09.07.2023	1	field observation	willow coppice/flowery rides	
<i>Ochlodes sylvanus</i>	Large Skipper	butterfly	23.06.2024	3	field observation	willow coppice/flowery rides	
<i>Pararge aegeria</i>	Speckled Wood	butterfly	06.08.2023	5	field observation	scrub margin	west side
<i>Pararge aegeria</i>	speckled wood	butterfly	16.08.2024	4	swept	willow coppice/flowery rides	
<i>Pararge aegeria</i>	Speckled Wood	butterfly	07.09.2023	1	field observation	willow coppice/flowery rides	
<i>Pararge aegeria</i>	speckled wood	butterfly	23.09.2023	1	field observation	willow coppice/flowery rides	
<i>Pararge aegeria</i>	speckled wood	butterfly	04.08.2024	7	field observation	willow coppice/flowery rides	
<i>Pieris brassicae</i>	Large White	butterfly	09.07.2023	2	field observation	willow coppice/flowery rides	
<i>Pieris brassicae</i>	Large White	butterfly	06.08.2023	1m	field observation	willow coppice/flowery rides	
<i>Pieris napi</i>	Green -veined White	butterfly	09.07.2023	1	field observation	willow coppice/flowery rides	
<i>Pieris rapae</i>	Small White	butterfly	29.07.2023	3	field observation	willow coppice/flowery rides	
<i>Polygonia C-album</i>	Comma	butterfly	25.06.2023	1	field observation	willow coppice/flowery rides	
<i>Polygonia c-album</i>	Comma	butterfly	25.05.2024	1	field observation	willow coppice/flowery rides	
<i>Polyommatus icarus</i>	Common Blue	butterfly	29.07.2023	1m	field observation	willow coppice/flowery rides	
<i>Pyronia tithonus</i>	Gatekeeper	butterfly	09.07.2023	more than 10	field observation	willow coppice/flowery rides	specially on bramble flowers
<i>Pyronia tithonus</i>	gatekeeper	butterfly	16.08.2024	1	swept	willow coppice/flowery rides	
<i>Pyronia tithonus</i>	gatekeeper	butterfly	04.08.2024	1	field observation	willow coppice/flowery rides	
<i>Thecla betulae</i>	Brown Hairstreak	butterfly	07.09.2023	1f	field observation	scrub, west side	record already submitted
<i>Thecla betulae</i>	Brown Hairstreak	butterfly	17.02.2024	1 egg	field observation	on young blackthorn	inside western hedge
<i>Thymelicus sylvestris</i>	Small Skipper	butterfly	25.06.2023	2	field observation	willow coppice/flowery rides	
<i>Thymelicus sylvestris</i>)	small skipper	butterfly	04.08.2024	2	field observation	willow coppice/flowery rides	
<i>Vanessa atalanta</i>	Red Admiral	butterfly	09.07.2023	1	field observation	on oak leaves	
<i>Asellus aquaticus</i>	water hog-louse	crustacean	25.05.2024	numerous	dip netted	temporary pond	eastern margin
<i>Acanthosoma haemorrhoidale</i>	Hawthorn Shield Bug	hemiptera	07.09.2023	2 nymphs	swept	willow coppice/flowery rides	
<i>Aelia acuminata</i>	Bishop's Mitre Bug	hemiptera	09.07.2023	3	swept	willow coppice/flowery rides	
<i>Aelia acuminata</i>	Bishop's Mitre bug	hemiptera	07.09.2023	2	swept	willow coppice/flowery rides	
<i>Aelia acuminata</i>	Bishop's Mitre bug	hemiptera	23.09.2023	1	swept	willow coppice/flowery rides	
<i>Aelia acuminata</i>	Bishop's mitre bug	hemiptera	23.06.2024	2	swept	willow coppice/flowery rides	

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Scientific name	Common name	group	date	Abundance	Method	Habitat	Comment
<i>Aphrophora alni</i>	Alder Spittlebug	hemiptera	25.06.2023	3	swept	willow coppice/flowery rides	
<i>Capsus ater</i>	a black bug	hemiptera	25.06.2023	1	swept	willow coppice/flowery rides	
<i>Capsus ater</i>	a black bug	hemiptera	23.06.2024	2	swept	willow coppice/flowery rides	
<i>Cicadella viridis</i>	Green leafhopper	hemiptera	29.07.2023	1	field observation	willow coppice/flowery rides	
<i>Cicadella viridis</i>	Green leafhopper	hemiptera	04.08.2024	4	swept	willow coppice/flowery rides	
<i>Coreus marginatus</i>	Dock Bug	hemiptera	25.06.2023	lt, numerous ny	swept	willow coppice/flowery rides	swept from docks
<i>Coreus marginatus</i>	Dock Bug	hemiptera	23.09.2023	1	swept	willow coppice/flowery rides	
<i>Coreus marginatus</i>	dock bug	hemiptera	16.08.2024	5	swept	willow coppice/flowery rides	
<i>Coreus marginatus</i>	Dock bug	hemiptera	23.06.2024	1	swept	willow coppice/flowery rides	
<i>Deraeocoris ruber</i>	a bug	hemiptera	09.07.2023	1m	swept	scrub margin	
<i>Dicyphus epilobi</i>	a bug on willow herb	hemiptera	29.07.2023	1	swept	willow coppice/flowery rides	
<i>Dolycoris baccarum</i>	Hairy Shieldbug	hemiptera	29.07.2023	1	field observation	eastern hedge line	
<i>Dolycoris baccarum</i>	Hairy Shield bug	hemiptera	23.06.2024	1	swept	willow coppice/flowery rides	
<i>Dolycoris baccarum</i>	Hairy Shieldbug	hemiptera	04.08.2024	1	swept	willow coppice/flowery rides	
<i>Eurydema oleracea</i>	Brassica Bug	hemiptera	12.08.2023	1	swept	willow coppice/flowery rides	on Wild carrot flowers
<i>Eurydema oleracea</i>	Brassica bug	hemiptera	23.09.2023	1	swept	willow coppice/flowery rides	
<i>Eurydema oleracea</i>	brassica shieldbug	hemiptera	16.04.2024	1	swept	willow coppice/flowery rides	
<i>Eurydema oleracea</i>	brassica bug	hemiptera	16.08.2024	1	swept	willow coppice/flowery rides	
<i>Eurygaster testudinaria</i>	Tortoise bug	hemiptera	23.09.2023	1	swept	willow coppice/flowery rides	
<i>Eurygaster testudinaria</i>	Tortoise bug	hemiptera	11.05.2024	1	swept	willow coppice/flowery rides	
<i>Eurygaster testudinaria</i>	tortoise bug	hemiptera	16.08.2024	1	swept	willow coppice/flowery rides	
<i>Eurygaster testudinaria</i>	Tortoise bug	hemiptera	29.07.2023	1	swept	willow coppice/flowery rides	
<i>Gerris sp</i>	a Pond Skater	hemiptera	06.05.2024	5	field observation	willow coppice/flowery rides	
<i>Leptopterna dolabrata</i>	a grass bug	hemiptera	25.06.2023	1m,1f	swept	willow coppice/flowery rides	
<i>Leptopterna dolabrata</i>	Meadow plant bug	hemiptera	23.06.2024	5	swept	willow coppice/flowery rides	
<i>Orthonotus rufifrons</i>	a small bug	hemiptera	09.07.2023	1f	swept	willow coppice/flowery rides	
<i>Palomina prasina</i>	Common Green Shield bug	hemiptera	06.08.2023	1	field observation	willow coppice/flowery rides	on fleabane flower
<i>Pentatoma rufipes</i>	Forest bug	hemiptera	09.07.2023	2	field observation	willow coppice/flowery rides	on elm leaves
<i>Pentatoma rufipes</i>	forest bug	hemiptera	16.08.2024	1	swept	willow coppice/flowery rides	
<i>Philaenus spumarius</i>	Spittle bug	hemiptera	25.06.2023	3	swept	willow coppice/flowery rides	
<i>Rhopalus subrufus</i>	a Rhopalid bug	hemiptera	11.05.2024	1	swept	willow coppice/flowery rides	
<i>Sehirus luctosus</i>	Forget -me-not bug	hemiptera	11.05.2024	1	swept	forget me nots under willow coppice	
<i>Stenodema calcarata</i>	a grass bug	hemiptera	07.09.2023	1	swept	willow coppice/flowery rides	
<i>Tetraneura ulmi</i>	aphid fig gall on Elm leaves	hemiptera	25.06.2023	4 galls	field observation	on elms in western tree belt	caused by aphids
<i>Troilus luridus</i>	Bronze Shield bug	hemiptera	23.09.2023	2	swept	woodland margin	
<i>Tuberolachnus salignus</i>	giant willow aphid	hemiptera	04.08.2024	2	swept	willow coppice/flowery rides	
<i>Zicrona caerulea</i>	Blue Shield-bug	hemiptera	09.07.2023	1	swept	willow coppice/flowery rides	

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<i>Zicrona caerulea</i>	Blue Shield-bug	hemiptera	23.09.2023	1	swept	willow coppice/flowery rides	
<i>Andricus kollari</i>	Oak marble gall wasp	hymenoptera	07.09.2023	1	field observation	on oak east side hedge	as typical gall
<i>Andricus quercuscalicis</i>	Knopper Gall-wasp	hymenoptera	06.08.2023	galls	field observation	on oak leaves, east scrub/tree	east margin
<i>Andricus quercuscalicis</i>	Knopper Gall wasp	hymenoptera	07.09.2023	galls	field observation	on oak east side hedge	as typical gall
<i>Anthophora plumipes</i>	Hairy-footed Flower Bee	Hymenoptera	06.05.2024	1f	field observation	willow coppice/flowery rides	bugle flowers
<i>Apis mellifera</i>	Honey Bee	hymenoptera	12.08.2023	workers	field observation	willow coppice/flowery rides	on fleabane & hoary ragwort f
<i>Apis mellifera</i>	honey bee	hymenoptera	16.08.2024	workers	swept	willow coppice/flowery rides	
<i>Apis mellifera</i>	Honey Bee	hymenoptera	04.08.2024	6	swept	willow coppice/flowery rides	
<i>Biorhiza pallida</i>	Oak Apple Gall wasp	hymenoptera	07.09.2023	as empty gall	field observation	on oak east side hedge	as typical gall
<i>Bombus lapidarius</i>	Black-bodied Red Tail bumble	hymenoptera	25.06.2023	1 worker	field observation	on bramble scrub margin	
<i>Bombus lucorum agg</i>	White -tailed Bumble Bee	hymenoptera	25.06.2023	1	field observation	on bramble scrub margin	
<i>Bombus lucorum agg</i>	White -tailed Bumble Bee	hymenoptera	04.08.2024	1	swept	willow coppice/flowery rides	
<i>Bombus pascuorum</i>	Common Carder Bumble B	hymenoptera	25.06.2023	1 worker	field observation	on bramble scrub margin	
<i>Bombus pascuorum</i>	Common Carder bumble bee	hymenoptera	23.09.2023	1	swept	willow coppice/flowery rides	
<i>Bombus pascuorum</i>	common carder bumble bee	hymenoptera	16.08.2024	1	swept	willow coppice/flowery rides	
<i>Bombus pascuorum</i>	Common Carder Bumble B	Hymenoptera	06.05.2024	3 queens	field observation	willow coppice/flowery rides	on bugle flowers
<i>Bombus pratorum</i>	Early bumblebee	hymenoptera	12.08.2023	1 worker	field observation	willow coppice/flowery rides	on flowers of hoary ragwort
<i>Bombus terrestris</i>	Buff-tailed Bumble bee	hymenoptera	12.08.2023	2 workers	field observation	willow coppice/flowery rides	on fleabane & hoary ragwort f
<i>Bombus terrestris</i>	Buff tailed Bumble bee	hymenoptera	17.02.2024	1 Queen	field observation	willow coppice/flowery rides	
<i>Colletes hederæ</i>	Ivy Bee	hymenoptera	23.09.2023	1f	swept	willow coppice/flowery rides	
<i>Cynips quercusfolii</i>	Cherry gall wasp on oak lea	hymenoptera	07.09.2023	3	field observation	on oak east side hedge	as typical gall
<i>Gasteruption assectator</i>	Wild Carrot wasp	hymenoptera	09.07.2023	1	swept	willow coppice/flowery rides	on wild carrot flowers
<i>Gasteruption assectator</i>	wild carrot wasp	hymenoptera	23.06.2024	1	swept	willow coppice/flowery rides	
<i>Gasteruption assectator</i>	wild carrot wasp	hymenoptera	04.08.2024	1	swept	willow coppice/flowery rides	
<i>Hylaeus communis</i>	a white faced bee	hymenoptera	16.08.2024	2	swept	willow coppice/flowery rides	
<i>Hylaeus communis</i>	a white faced bee	hymenoptera	04.08.2024	1f, 1m	swept	willow coppice/flowery rides	
<i>Hylaeus confusus</i>	white-jawed yellow-faced b	hymenoptera	16.04.2024	2m	swept	willow coppice/flowery rides	
<i>Hylaeus dilatatus</i>	Chalk Yellow-face Bee	hymenoptera	12.08.2023	1f	swept	willow coppice/flowery rides	on wild carrot flowers
<i>Hylaeus dilatatus</i>	chalk yellow-faced bee	hymenoptera	16.04.2024	1f	swept	willow coppice/flowery rides	
<i>Ichneumon sarcitorius</i>	White-striped Darwin Wasp	hymenoptera	12.08.2023	1f	swept	willow coppice/flowery rides	on Wild carrot flowers
<i>Lasius flavus</i>	Yellow Meadow Ants	hymenoptera	29.07.2023	workers in nest	tubed	rides / northern fenced off scrub area	
<i>Lasius niger</i>	Common Black Ant	hymenoptera	09.07.2023	3	swept	willow coppice/flowery rides	
<i>Megachile ligniseca</i>	Wood-carving Leafcutter B	hymenoptera	06.08.2023	1f	swept	willow coppice/flowery rides	
<i>Tiphia femorata</i>	Large Tiphia	hymenoptera	04.08.2024	1f	swept	willow coppice/flowery rides	
<i>Vespa crabro</i>	hornet	hymenoptera	29.08.2024	4 workers	Skinner light moth trap	willow coppice/flowery rides	in central ride area
<i>Arion ater aggregate</i>	black slug	mollusc	04.08.2024	4	field observation	coppice /under dumped plastic	near entrance gate
<i>Cepaea nemoralis</i>	Brown-lipped Banded snail	mollusc	29.07.2023	2	field observation	willow coppice/flowery rides	
<i>Cochlicopa sp.</i>	a snail	mollusc	16.08.2024	1	swept	willow coppice/flowery rides	

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<i>Monacha cantiana</i>	Kentish Snail	mollusc	09.07.2023	1	field observation	willow coppice/flowery rides	
<i>Acrionicta rumicis</i>	Knot Grass	moth	12.08.2023	2 caterpillars	field observation	willow coppice/flowery rides	eating leaves of fleabane
<i>Acrionicta rumicis</i>	Knot Grass	moth	23.06.2024	1 caterpillar	swept	willow coppice/flowery rides	
<i>Agapeta hamana.</i>	Garden Straw	moth	30.06.2024	1	field observation	willow coppice/flowery rides	
<i>Agrotis puta</i>	Shuttle-shaped Dart	moth	29.08.2024	1	Skinner light moth trap	willow coppice/flowery rides	in central ride area
<i>Anania crocealis</i>	a micromoth	moth	29.08.2024	numerous	Skinner light moth trap	willow coppice/flowery rides	in central ride area
<i>Apodia martinii (bifractella)</i>	Dark Seedhead moth	moth	04.08.2024	1	tubed	willow coppice/flowery rides	breeds in fleabane
<i>Archips podana</i>	Large Fruit-tree Tortrix	moth	25.06.2023	1f	swept	willow coppice/flowery rides	
<i>Autographa gamma</i>	Silver Y moth	moth	09.07.2023	1	field observation	willow coppice/flowery rides	
<i>Autographa gamma</i>	Silver Y moth	moth	16.08.2024	1	swept	willow coppice/flowery rides	
<i>Callimorpha dominula</i>	Scarlet Tiger moth	moth	23.06.2024	1	field observation	willow coppice/flowery rides	
<i>Caloptilia stigmatella</i>	White-triangle Slender	moth	23.09.2023	1	swept	willow coppice/flowery rides	
<i>Carcina quercana</i>	Oak Longhorn	moth	10.08.2024	1	Skinner light moth trap	willow coppice/flowery rides	in northern ride area
<i>Eilema griseola</i>	Dingy Footman	moth	10.08.2024	1	Skinner light moth trap	willow coppice/flowery rides	in northern ride area
<i>Epagoge grotiana</i>	Brown barred Tortrix	moth	10.08.2024	1	Skinner light moth trap	willow coppice/flowery rides	in northern ride area
<i>Epiblema scutulana</i>	Thistle Root-borer	moth	09.06.2024	1	field observation	photographed on fleabane	
<i>Erannis defoliaria</i>	Mottled Umber	moth	11.05.2024	1 caterpillar	field observation	hedge	photographed
<i>Eudonia pallida</i>	pallid grey/ marsh grey	moth	29.08.2024	2	Skinner light moth trap	willow coppice/flowery rides	in central ride area
<i>Lymantria dispar</i>	Gypsy Moth	moth	25.05.2024	1 caterpillar	field observation	willow coppice/flowery rides	
<i>Mythima pallens</i>	Common Wainscot	moth	29.08.2024	2	Skinner light moth trap	willow coppice/flowery rides	in central ride area
<i>Noctua pronubia</i>	Large Yellow Underwing	moth	29.08.2024	2	Skinner light moth trap	willow coppice/flowery rides	in central ride area
<i>Notodonta dromedarius</i>	Iron Prominent	moth	10.08.2024	1	Skinner light moth trap	willow coppice/flowery rides	in northern ride area
<i>Ochropleura plecta</i>	Flame Shoulder	moth	10.08.2024	1	Skinner light moth trap	willow coppice/flowery rides	in northern ride area
<i>Oidaematophorus lithodactyla</i>	Dusky Plume moth	moth	29.07.2023	2	field observation	willow coppice/flowery rides	on Fleabane flowers
<i>Phragmatobia fuliginosa</i>	Ruby Tiger	moth	10.08.2024	1	Skinner light moth trap	willow coppice/flowery rides	in northern ride area
<i>Rivula sericealis</i>	straw dot moth	moth	04.08.2024	1	tubed	willow coppice/flowery rides	
<i>Synanthedon formicaeformis</i>	Red-tipped Clearwing	moth	06.08.2023	1	field observation	willow coppice/flowery rides	south side
<i>Timandra comae</i>	Bloodvein	moth	30.06.2024	1	field observation	willow coppice/flowery rides	
<i>Triodia sylvina</i>	Orange Swift	moth	10.08.2024	2	Skinner light moth trap	willow coppice/flowery rides	in northern ride area
<i>Tyria jacobaeae</i>	Cinnabar moth	moth	09.07.2023	7 caterpillars	field observation	willow coppice/flowery rides	on hoary ragwort plant
<i>Xestia c-nigrum</i>	Setaceous Hebrew Charact	moth	29.08.2024	1	Skinner light moth trap	willow coppice/flowery rides	in central ride area
<i>Xestia sexstrigata</i>	Six-striped rustic	moth	29.08.2024	1	Skinner light moth trap	willow coppice/flowery rides	in central ride area
<i>Xestia xanthographa</i>	Square-spot Rustic	moth	29.08.2024	1	Skinner light moth trap	willow coppice/flowery rides	in central ride area
<i>Yponomeuta orrella</i>	Willow Ermine	moth	14.07.2024	1	field observation	willow coppice/flowery rides	
<i>Zygaena filipendulae</i>	6 spot burnet moth	moth	30.06.2024	1	field observation	willow coppice/flowery rides	
<i>Chrysoperla carnea</i>	Common Green Lacewing	neuroptera	06.08.2023	1	swept	willow coppice/flowery rides	
<i>Anax imperator</i>	Emperor Dragonfly	odonata	09.07.2023	1f	field observation	willow coppice/flowery rides	hunting down rides

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<i>Anax imperator</i>	Emperor Dragonfly	odonata	23.06.2024	1	field observation	willow coppice/flowery rides	
<i>Calopteryx splendens</i>	Banded Demoiselle	odonata	23.06.2024	1m	field observation	willow coppice/flowery rides	
<i>Calopteryx virgo</i>	Beautiful Demoiselle	odonata	25.05.2024	1f	swept	shaded temporary pond	east margin
<i>Enallagma cyathigerum</i>	Common Blue Damselfly	odonata	25.06.2023	numerous	swept	willow coppice/flowery rides	
<i>Ischnura elegans</i>	Blue-tailed Damselfly	odonata	25.06.2023	1m,1f	swept	willow coppice/flowery rides	
<i>Ischnura elegans</i>	Blue tailed Damselfly	odonata	06.05.2024	1m,1f	swept	willow coppice/flowery rides	south east corner
<i>Pyrrhosoma nymphula</i>	Large Red Damselfly	odonata	06.05.2024	1m,1f	field observation	willow coppice/flowery rides	south east corner
<i>Sympetrum striolatum</i>	Common Darter	odonata	09.07.2023	1	field observation	willow coppice/flowery rides	
<i>Chorthippus albomarginatus</i>	Lesser Marsh Grasshopper	orthoptera	29.07.2023	1	swept	willow coppice/flowery rides	
<i>Chorthippus paralellus</i>	Meadow Grasshopper	orthoptera	12.08.2023	1f	swept	willow coppice/flowery rides	
<i>Conocephalus fuscus</i>	Long-winged Conehead	orthoptera	29.07.2023	1f	field observation	willow coppice/flowery rides	
<i>Conocephalus fuscus</i>	long winged conehead	orthoptera	04.08.2024	1	swept	willow coppice/flowery rides	
<i>Leptophyes punctatissima</i>	Speckled Bush Cricket	orthoptera	06.08.2023	1m	swept	elm scrubby margin	
<i>Leptophyes punctatissima</i>	Speckled Bush Cricket	orthoptera	23.06.2024	2 nymphs	swept	willow coppice/flowery rides	
<i>Leptophyes punctatissima</i>	Speckled bush cricket	orthoptera	04.08.2024	1m	swept	willow coppice/flowery rides	
<i>Meconema thalassinum</i>	oak bush cricket	orthoptera	16.08.2024	1f	swept	willow coppice/flowery rides	
<i>Meconema thalassinum</i>	Oak bush cricket	orthoptera	04.08.2024	1	swept	willow coppice/flowery rides	
<i>Roeseliana roeselii</i>	Roesel's bush cricket	orthoptera	29.07.2023	1f	field observation	willow coppice/flowery rides	
<i>Roeseliana roeselii</i>	Roesel's bush cricket	orthoptera	04.08.2024	1	swept	willow coppice/flowery rides	
<i>Tetrix subulata</i>	slender groundhopper	orthoptera	16.08.2024	2	swept	willow coppice/flowery rides	
<i>Tetrix subulata</i>	Slender Groundhopper	orthoptera	23.06.2024	1	swept	willow coppice/flowery rides	
<i>Tetrix subulata</i>	slender groundhopper	orthoptera	04.08.2024	1	swept	willow coppice/flowery rides	
<i>Tetrix undulata</i>	Common Ground-hopper	orthoptera	06.08.2023	1	field observation	willow coppice/flowery rides	
<i>Tetrix undulata</i>	common groundhopper	orthoptera	16.08.2024	1	swept	willow coppice/flowery rides	
<i>Tetrix undulata</i>	common groundhopper	orthoptera	04.08.2024	3	swept	willow coppice/flowery rides	
<i>Aprocerus leucopoda</i>	Zig zag sawfly	sawfly	07.09.2023	zing sign on elm	field observation	hedge/scrub	zig zag grazing mark lvs
<i>Panorpa sp</i>	a scorpion fly	scorpion fly	23.06.2024	1	swept	willow coppice/flowery rides	
<i>Anomoia permunda</i>	a tephritid fly	true fly (Diptera)	04.08.2024	1	swept	willow coppice/flowery rides	
<i>Anthomyza sp</i>	an Anthomyzid fly	true fly (Diptera)	11.05.2024	4	swept	willow coppice/flowery rides	
<i>Anthomyza sp</i>	an Anthomyzid fly	true fly (Diptera)	23.06.2024	5	swept	willow coppice/flowery rides	
<i>Cheilosia sp</i>	a hoverfly	true fly (Diptera)	07.09.2023	1	swept	willow coppice/flowery rides	
<i>Cheilosia albitalis</i>	Buttercup blacklet	true fly (Diptera)	16.04.2024	1f	swept	willow coppice/flowery rides	
<i>Cheilosia illustrata</i>	a hoverfly	true fly (Diptera)	23.06.2024	1	swept	willow coppice/flowery rides	
<i>Chloromyia formosa</i>	Broad Centurion	true fly (Diptera)	29.07.2023	1f	swept	willow coppice/flowery rides	
<i>Chrysopilus asiliformis</i>	a fly	true fly (Diptera)	23.06.2024	4	swept	willow coppice/flowery rides	
<i>Chrysops caecutiens</i>	Splayed Deerfly	true fly (Diptera)	12.08.2023	1m	swept	willow coppice/flowery rides	on fleabane flower
<i>Chrysotoxum sp</i>	a wasp mimic hoverfly	true fly (Diptera)	23.06.2024	1	swept	willow coppice/flowery rides	

The Triangle	Species Surveys	Judith A Webb	centre SP4986 1206	2023&2024			
Scientific name	Common name	group	date	Abundance	Method	Habitat	Comment
<i>Coremacera marginata</i>	Sieve-winged Snail-killer	true fly (Diptera)	06.08.2023	1	swept	willow coppice/flowery rides	under power lines
<i>Dioctria atricapilla</i>	Violet Black-legged Robber	true fly (Diptera)	25.05.2024	1	swept	willow coppice/flowery rides	
<i>Discomyza incurva</i>	an Ephydrid fly	true fly (Diptera)	16.08.2024	1	swept	willow coppice/flowery rides	
<i>Empis livida</i>	an Empid (dance) fly	true fly (Diptera)	23.06.2024	numerous	swept	willow coppice/flowery rides	
<i>Empis tessellata</i>	a Dance fly	true fly (Diptera)	25.05.2024	4	swept	willow coppice/flowery rides	
<i>Episyrphus balteatus</i>	Marmalade Hoverfly	true fly (Diptera)	12.08.2023	2	swept	willow coppice/flowery rides	on Fleabane flower
<i>Eriothrix rufomaculata</i>	a tachinid fly	true fly (Diptera)	04.08.2024	2	swept	willow coppice/flowery rides	
<i>Eristalis nemorum</i>	Stripe-faced Drone fly	true fly (Diptera)	12.08.2023	1m	swept	willow coppice/flowery rides	on fleabane flowers
<i>Euphyllidorea dispar</i>	a crane fly	true fly (Diptera)	11.05.2024	2	swept	hawthorn fls, eastern hedge	
<i>Eustalomyia sp.</i>	an Anthomyid fly	true fly (Diptera)	25.06.2023	1	swept	on leaf at woodland margin	
<i>Haematopota pluvialis</i>	clegg horsefly	true fly (Diptera)	30.06.2024	1	swept	willow coppice/flowery rides	
<i>Helophilus pendulus</i>	footballer hoverfly	true fly (Diptera)	23.06.2024	1	swept	willow coppice/flowery rides	
<i>Herina lugubris</i>	a picture winged fly	true fly (Diptera)	06.08.2023	3	swept	willow coppice/flowery rides	
<i>Herina lugubris</i>	a picture wing fly	true fly (Diptera)	16.04.2024	1m,1f	swept	willow coppice/flowery rides	
<i>Herina lugubris</i>	a picture winged fly	true fly (Diptera)	04.08.2024	5	swept	willow coppice/flowery rides	
<i>Herina lugubris</i>	a picture wing fly	true fly (Diptera)	16.08.2024	2	swept	willow coppice/flowery rides	
<i>Hydromya dorsalis</i>	5-spotted snail-killer	true fly (Diptera)	11.05.2024	1f	swept	willow coppice/flowery rides	
<i>Leptogaster cylindrica</i>	Striped Slender Robberfly	true fly (Diptera)	23.06.2024	4	swept	willow coppice/flowery rides	
<i>Limnia sp</i>	a snail killing fly	true fly (Diptera)	06.08.2023	2	swept	willow coppice/flowery rides	
<i>Limnia unguicornis</i>	Stripe-backed snail-killer	true fly (Diptera)	11.05.2024	3	swept	willow coppice/flowery rides	
<i>Limnia unguicornis</i>	Stripe-backed snail-killer	true fly (Diptera)	23.06.2024	6	swept	willow coppice/flowery rides	
<i>Limnia unguicornis</i>	Stripe-backed snail-killer	true fly (Diptera)	16.04.2024	1m	swept	willow coppice/flowery rides	
<i>Limonia nigropunctata</i>	a crane fly	true fly (Diptera)	11.05.2024	1m,2f	swept	willow coppice/flowery rides	
<i>Limonia phragmatidis</i>	a crane fly	true fly (Diptera)	11.05.2024	1	swept	willow coppice/flowery rides	
<i>Lirionomyza erucifolii</i>	Agromyzid fly	true fly (Diptera)	23.09.2023	es on numerous	field observation	willow coppice/flowery rides	on lvs of Hoary Ragwort
<i>Loxocera aristata</i>	a Psilid fly	true fly (Diptera)	23.06.2024	1	swept	willow coppice/flowery rides	breeds in rushes
<i>Loxocera aristata</i>	a psilid fly	true fly (Diptera)	16.04.2024	1f	swept	willow coppice/flowery rides	breeds in rushes
<i>Loxocera aristata</i>	a psilid fly	true fly (Diptera)	16.08.2024	1	swept	willow coppice/flowery rides	breeds in rushes
<i>Loxocera aristata</i>	a Psilid fly	true fly (Diptera)	04.08.2024	1	swept	willow coppice/flowery rides	breeds in rushes
<i>Lucilia sericata</i>	Common Greenbottle fly	true fly (Diptera)	06.08.2023	3	swept	willow coppice/flowery rides	
<i>Melieria crassipennis</i>	a picture wing fly	true fly (Diptera)	29.07.2023	1	swept	willow coppice/flowery rides	
<i>Merzomyia westermanni</i>	Swiss-cheese Tephritid	true fly (Diptera)	23.09.2023	1	swept	willow coppice/flowery rides	northern ride
<i>Merzomyia westermanni</i>	Swiss-cheese Tephritid	true fly (Diptera)	04.08.2024	7	swept	willow coppice/flowery rides	breeds in ragwort fls
<i>Myathropa florea</i>	Batman Hoverfly	true fly (Diptera)	06.08.2023	1	swept	willow coppice/flowery rides	on fleabane flowers
<i>Myopites inulaedysentericae</i>	a tephritid gall fly	true fly (Diptera)	09.07.2023	1	swept	willow coppice/flowery rides	
<i>Myopites inulaedysentericae</i>	a tephritid gall fly	true fly (Diptera)	29.07.2023	3	swept	northern scrubby area & ride	
<i>Myopites inulaedysentericae</i>	a tephritid gall fly	true fly (Diptera)	06.08.2023	1	swept	willow coppice/flowery rides	
<i>Myopites inulaedysentericae</i>	a tephritid gall fly	true fly (Diptera)	16.04.2024	1m	swept	willow coppice/flowery rides	
<i>Myopites inulaedysentericae</i>	a tephritid gall fly	true fly (Diptera)	04.08.2024	4	swept	willow coppice/flowery rides	

The Triangle	Species Surveys	Judith A Webb	centre SP4986 1206	2023&2024			
Scientific name	Common name	group	date	Abundance	Method	Habitat	Comment
<i>Nephrotoma quadrifaria</i>	a crane fly	true fly (Diptera)	11.05.2024	1m	swept	willow coppice/flowery rides	
<i>Nyctia halterata</i>	a Flesh fly	true fly (Diptera)	29.07.2023	1	swept	willow coppice/flowery rides	on fleabane flowers
<i>Phasia pusilla</i>	a Tachinid fly	true fly (Diptera)	06.08.2023	1m	swept	willow coppice/flowery rides	
<i>Phasia pusilla</i>	a Tachinid fly	true fly (Diptera)	23.06.2024	1	swept	willow coppice/flowery rides	
<i>Pherbellia sp</i>	a snail killing fly	true fly (Diptera)	16.04.2024	1	swept	willow coppice/flowery rides	
<i>Phyllomyza flavitarsis</i>	a Milichiid fly	true fly (Diptera)	11.05.2024	3	swept	wept from hawthorn fls, eastern hedge	
<i>Phytomyza conyzae</i>	an Agromyzid fly	true fly (Diptera)	12.08.2023	leaf mine	field observation	willow coppice/flowery rides	on leaves of Fleabane
<i>Pipiza sp</i>	a hoverfly	true fly (Diptera)	12.08.2023	1	swept	willow coppice/flowery rides	on fleabane flower
<i>Poecilobothrus nobilitatus</i>	Semaphore fly	true fly (Diptera)	09.06.2024	1m	swept	willow coppice/flowery rides	
<i>Sphaerophoria scripta</i>	a hoverfly	true fly (Diptera)	29.07.2023	1	swept	willow coppice/flowery rides	
<i>Sphenella marginata</i>	a Tephritid fly	true fly (Diptera)	06.08.2023	1	swept	willow coppice/flowery rides	
<i>Suillia variegata</i>	a heleomyzid fly	true fly (Diptera)	em 09.09.2023	3	reared	willow coppice/flowery rides	from Hebeloma sacchariolens
<i>Tachina fera</i>	a parasite fly	true fly (Diptera)	04.08.2024	1	swept	willow coppice/flowery rides	
<i>Tephritis cometa</i>	a Tephritid fly	true fly (Diptera)	06.08.2023	1	swept	willow coppice/flowery rides	
<i>Tephritis divisa</i>	Bristly Ox tongue gall fly	true fly (Diptera)	16.04.2024	1f	swept	willow coppice/flowery rides	
<i>Tephritis neesii</i>	a Tephritid fly	true fly (Diptera)	06.08.2023	1	swept	willow coppice/flowery rides	
<i>Tephritis formosa</i>	a tephritid gall fly	true fly (Diptera)	16.04.2024	1f	swept	willow coppice/flowery rides	
<i>Terellia serratulae</i>	a tephritid gall fly	true fly (Diptera)	16.04.2024	1f	swept	willow coppice/flowery rides	
<i>Tetanocera phyllophora</i>	a snail killing fly	true fly (Diptera)	29.07.2023	1	swept	willow coppice/flowery rides	
<i>Tipula lunata</i>	a crane fly	true fly (Diptera)	11.05.2024	1m, 1f	swept	willow coppice/flowery rides	
<i>Tipula lunata</i>	a crane fly	true fly (Diptera)	23.06.2024	1f	swept	willow coppice/flowery rides	
<i>Tipula paludosa</i>	a crane fly	true fly (Diptera)	23.09.2023	numerous	swept	willow coppice/flowery rides	
<i>Tipula paludosa</i>	a crane fly	true fly (Diptera)	16.08.2024	1m	swept	willow coppice/flowery rides	
<i>Tipula vernalis</i>	a crane fly	true fly (Diptera)	06.05.2024	1	swept	eastern hedge	
<i>Tipula vernalis</i>	a crane fly	true fly (Diptera)	11.05.2024	1m	swept	willow coppice/flowery rides	
<i>Trypetoptera punctulata</i>	Picture-winged Snail-killer	true fly (Diptera)	14.07.2024	1	swept	willow coppice/flowery rides	breeds in snails
<i>Trypetoptera punctulata</i>	Picture-winged Snail-killer	true fly (Diptera)	29.07.2023	1	swept	willow coppice/flowery rides	
<i>Urophora cardui</i>	a Tephritid fly	true fly (Diptera)	29.07.2023	6 galls	field observation	willow coppice/flowery rides	
<i>Urophora cardui</i>	Thistle Gall-fly	true fly (Diptera)	23.06.2024	1f	swept	willow coppice/flowery rides	breeds in thistle flowers
<i>Urophora jaceana</i>	knapweed gall fly	true fly (Diptera)	16.04.2024	1f	swept	willow coppice/flowery rides	breeds in knapweed fls
<i>Urophora quadrifasciata</i>	4-barred Knapweed Gall fly	true fly (Diptera)	11.05.2024	1m	swept	willow coppice/flowery rides	breeds in knapweed flowers
<i>Urophora stylata</i>	Spear-thistle Gall-fly	true fly (Diptera)	23.06.2024	1f	swept	willow coppice/flowery rides	breeds in thistle flowers
<i>Volucella bombylans</i>	Bumblebee hoverfly	true fly (Diptera)	23.06.2024	2	swept	willow coppice/flowery rides	
<i>Volucella inanis</i>	a wasp mimic hoverfly	true fly (Diptera)	19.08.2023	1	field observation	willow coppice/flowery rides	on fleabane flower
<i>Volucella inanis</i>	a wasp mimic hoverfly	true fly (Diptera)	19.08.2023	1	field observation	willow coppice/flowery rides	on fleabane flower
<i>Volucella pellucens</i>	Great Pied hoverfly	true fly (Diptera)	09.07.2023	1	field observation	willow coppice/flowery rides	