

# Ems Botanical Corridor Spring Survey



*Photo 1.* Adder's-tongue fern *Ophioglossum vulgatum* Photograph taken by Sandy Galloway

**Site:** Westbourne Parish

**Client:** Chichester District Council

Version 002

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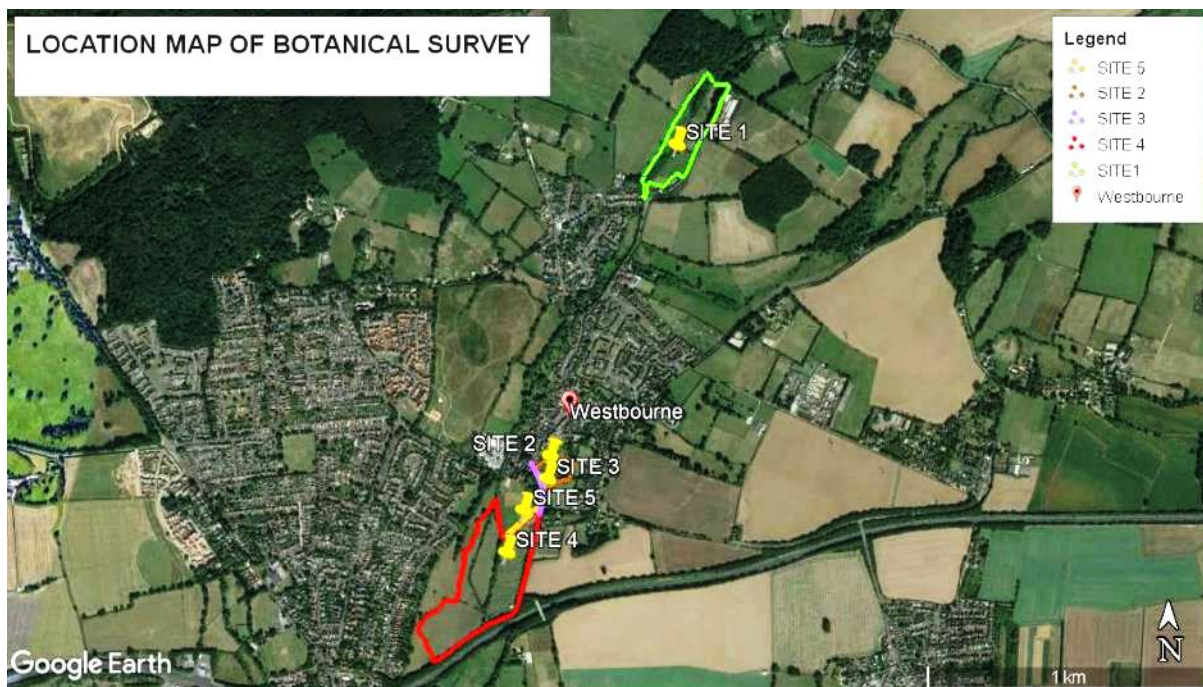
### 1. Summary

This is a brief summary of findings of the site survey carried out at along sections of the River Ems.

- Middleton Ecology was commissioned by Chichester District Council to undertake a second botanical survey in the Spring of accessible areas along the River Ems and highlight the species of conservation concern.
- The areas that were surveyed were outside the South Downs National Park.
- Four areas were surveyed on 05/05/2021 and are to be known as site 2, site 3, site 4 and site 5. Then site 1 was surveyed on the 06/05/2021.
- During this extended botanical survey, the sites were mapped out with the new phase one method of Habitat UK (See overall map figure 1 then figures 2,3,4,5 and 6 for individual sites).
- There are a number of dead trees and mature trees covered in ivy - that have the potential to support summer roosting bats. Bats are fully protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations, 2017.
- During the survey evidence of water vole droppings were found in sites 1 and 3 and are protected in accordance with the duty placed on Local Planning Authorities to have due regard for biodiversity under the NERC Act, 2006.

- The habitats on site have the potential to support the European hedgehog. During the survey hedgehog droppings were found on site 1 confirming they are in the area. The European hedgehog is a species of principal importance, listed under Section 41 of the NERC Act, 2006.
- With regard to the non - native invasive species found along the Ems - the Hybrid Bluebell was found on sites 1 and 3. Winter Heliotrope was found growing beside the stream on site 3. The Holm Oak has been removed since the last survey from beside the footpath on site 4.
- See Appendix 1 for the records for the Botanical Survey carried out on the 05/05/2021 and 06/05/2021.

**Figure 1.** Map showing geographical location of the sites



Site Location (Google Earth Pro, 2020).

## 2. Brief and Objectives

The purpose of the survey was to:

- Record the spring flowers that would have been missed during the summer survey and any additional species that may have been missed.
- Map and identify the existing habitats with the UK Habitat methodology within the sites along the Ems.
- Check for evidence of protected species and assess the potential for protected species to be present in the sites along the Ems.
- Check for evidence of invasive species.
- Make future management recommendations.

### 3. Chalk Indicator Species

The botanical chalk-stream Indicator species found were as follows: -

<i>Ranunculus pencillatus subsp pseudofluitans</i>	Brook Water Crowfoot
<i>Veronica anagalis aquatica</i>	Blue Water Speedwell
<i>Rorippa-nasturtium-aquaticum</i>	Water-cress
<i>Callitriche obtusangula</i>	Blunt-fruited Water Starwort
<i>Glyceria fluitans</i>	Floating Sweet-grass
<i>Hildenbrandia rivularis</i>	(red algae on stones)
<i>Hygroamblystegium tenax</i>	Fountain Feather-moss
<i>Platyhypnidium ripariodes</i>	Long-beaked Water Feather-moss
<i>Cratoneuron filicinum</i>	Fern-leaved Hook-moss
<i>Pellia endiviifolia</i>	Endive Pelia

### 4. Other plants of note

The Pepper Saxifrage was found again (sites 1 and 4) which is an indicator of old meadow sites. In addition, the leaves of hybrid Southern Marsh/ Common spotted Orchid were found - meaning that once there were both parent species found on site 1 and maybe still? Also, the Adder's-tongue fern was found here as well as some remains of ant hills hidden in the tall vegetation. This Adder's-tongue fern area would greatly benefit if the tall vegetation could be cut back and the arisings raked away which could be made into reptile refuges. Late September/ beginning of October would be a good time to do this work if permission can be given from the land owner (see figure 2). Long- term if the site could be grazed, that would be better still.

### 5. Non-native Invasive Species

Two non-native invasive species were recorded during the survey. On site 3, during the survey the plant species known as Winter Heliotrope was still found. In addition to the summer list - Hybrid Bluebell was found on sites 1 and 2. Then the positive record was that the single sapling of Holm Oak, that was found last summer, has been removed. These remaining two species are regulated by Schedule 9, Section 2 of the Wildlife and Countryside Act, 1981 (as amended), which lists non-native species that are already established in the wild, but which continue to pose a conservation threat to native biodiversity and habitats, such that species management and further releases should be regulated.

### 6. Habitat UK Surveying

For many years Phase One surveying has been the method to be used when mapping habitats. However, in recent years – County Record Centres have been wanting to capture more information - so as to help and inform themselves and managers of land on what contributing factors maybe



supporting species or not in some cases. Habitat UK is quite ambitious, but it is still in its early stages so probably needs to be adapted further - especially if parish communities are expected to use it.

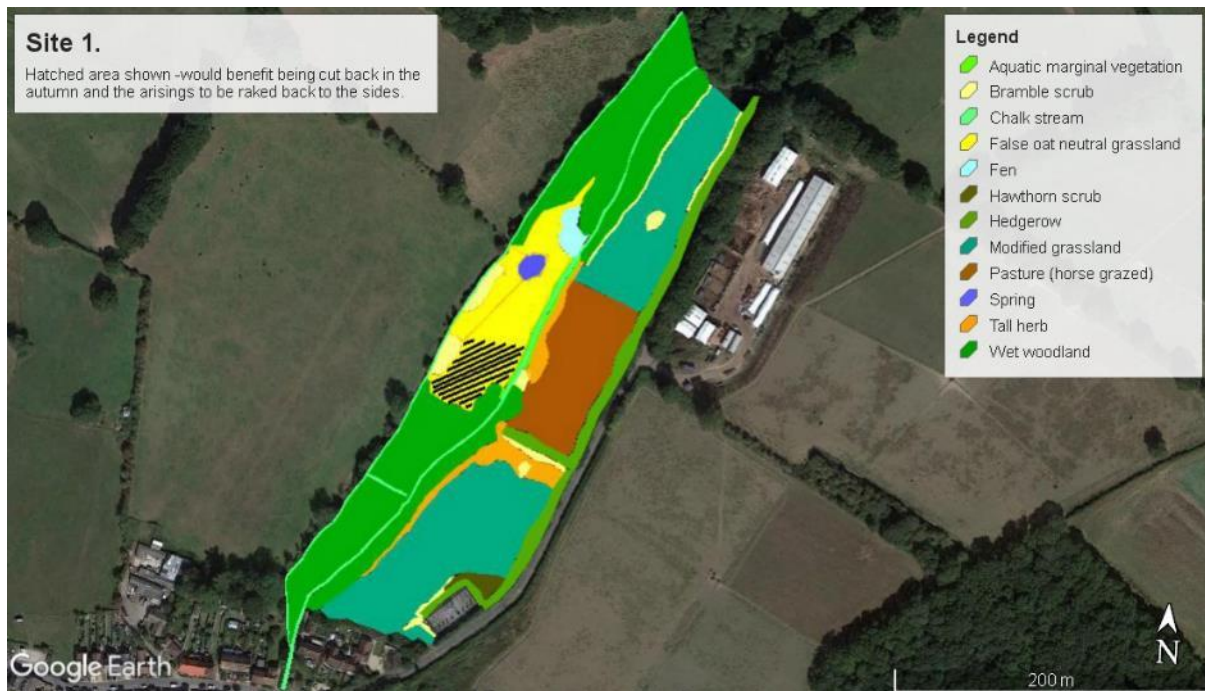
There seems to be no clear guidance on what colours should be used - so I have created a bespoke one to suit this report.

## Site 1

Photo 2. Site 1.



Figure 2. Map showing habitats found on site 1.



(Google Earth Pro, 2020).

Using the Habitat UK phase 1 guidelines **site one** comprises of the following habitat descriptions: -

### **310 Grasslands**

#### **Definition**

Vegetation with more than 75% cover of herbaceous species such as grasses, sedges, rushes, herbs. Forbs (mosses and lichens) with wetland tall/herbs/sedges and halophytic species (salt loving) absent or occasional.

### **g3 Neutral grassland**

#### **Definition**

Vegetation dominated by grasses and herbs on a range of neutral soils usually with a Ph of between 4.5 and 6.5.

#### **Landscape and Ecological context**

It includes enclosed dry hay meadows and pastures together with a range of grasslands which are periodically inundated with water or permanently moist.

#### **Synonyms**

### **Mesotrophic grasslands**

#### **Species**

Neutral grassland communities have few diagnostic indicator species but lack strong calcicoles or calcifuges characteristic of base-rich and acid soils respectively (in this case it is a neutral grassland leaning on the more base-rich because of being beside the South Downs. Neutral grassland differs from agriculturally improved grassland by having less lush sward a greater range and higher cover of herbs and usually less than 25% cover of perennial rye-grass *Lolium perenne*.

### **g3c5 False oat neutral grassland (shown in yellow)**

#### **Definition**

Neutral grassland with False oat-grass *Arrhenatherum elatius* dominant.

#### **Landscape and Ecological context**

Lightly managed fields or road verges in lowland areas.

#### **Species**

This category is equivalent to National Vegetation Classification Community MG1. Total grass cover usually between 50 and 75% with abundant False oat-grass *Arrhenatherum elatius* (50% in this case). Cock's-foot *Dactylis glomerata* is also constant. Forbs up to 50% cover associated with fertile soil e.g Ribwort Plantain *Plantago lanceolata*, Sorrel *Rumex acetosa*, Meadow buttercup *Ranunculus acris*, Creeping buttercup *Ranunculus repens*, Selfheal *Prunella vulgaris* and Silverweed *Potentilla anserina*.

### **G4 Modified grassland (Shown in greeny blue)**

#### **Definition**

Vegetation dominated by a few fast-growing grasses on fertile neutral soils can be frequently be characterised by an abundance of species such as White clover *Trifolium repens*.

## Species

Palatable grasses dominated by Timothy *Phleum pratense*, Cock's-foot *Dactylis glomerata*, Yorkshire fog *Holcus lanata*. Broad-leaved species restricted mainly by White clover *Trifolium repens*. Creeping buttercup *Ranunculus repens*, Greater plantain *Plantago major*, Broad-leaved dock *Rumex obtusifolius*. Wet situations like here Soft rush *Juncus effusus* Rough meadow grass *Poa trivialis*. Species poor <9 species m<sup>2</sup>. N.B. there are some scattered areas that are a little more interesting including species such as Red bartsia *Odontites vernus* and Yarrow *Achillea millefolium* but generally these areas have been modified.

### 1011 Pasture or meadow

#### Definition

Land used for grazing or managed as a meadow.

### 61 Horse grazed (Shown in brown)

#### Definition

Managed by horses - direct evidence of animals or their signs.

### 140 Ant hills (Found within hatched area)

#### Definition

Mounds of soil, usually at least part vegetated, in grassland created by ants.

### 77 Neglected

#### Definition

The habitat is not being actively managed now and is likely to not have been managed for 3 to 10 years. However, in this case was probably grazed.

### W Woodland and forest

#### Definition

Land with more than 25% cover of trees that are 5m in height.

#### Inclusions

Recently felled woodland (but not clear-felled forestry plantations unless replanted). Coppice. Coppice with standards. Line of trees (but not hedgerows). Wet woodland and Bog woodland.

### W1 d - Wet Woodland (Shown in green)

#### Definition

Wet Woodland occurs on poorly drained or seasonally wet soils. In this case with willow *salix ssp.* as the predominant tree species with Ash *Fraxinus excelsior* and Scot's pine *Pinus sylvestris* on the drier riparian areas.

#### Landscape and Ecological context

It is found on floodplains, as a successional habitat on fens along streams in this case. These woodlands are known as carr.

## Species

Dominated by trees such as alder or willow in this case Sallow *Salix cinerea*. The field layer includes Soft rush *Juncus effusus*, Water mint *Mentha aquatica*, Stinging nettle *Urtica dioica*, Meadowsweet *Filipendula ulmaria* and Marsh horsetail *Equisetum palustre*.

### 16 Tall herb (shown in orange)

#### Definition

Stands of tall perennial or biennial dicotyledons, such as Stinging nettle *Urtica dioica* and Hogweed *Heracleum sphondylium*.

### 1180 Hedgerow (shown in bright green)

A boundary line of scrub and trees over 20 m long and less than 5m wide and where any gaps between trees are less than 20m wide.

#### h2a Hedgerow (priority habitat)

#### Definition

Hedgerows consisting predominantly (i.e., 80% or more cover) of at least one woody UK native species, where each UK County can define the list of woody species native to their respective County.

#### Exclusions

Climbers such as bramble are recognised as integral to many hedgerows; however, they require other woody plants to be present to form a distinct woody boundary feature, as such they are not included in the definition of woody species.

## Species

A mix of scrub and tree species such as Common Hawthorn *Crataegus monogyna*, Blackthorn *Prunus spinosa*, Hazel *Corylus avellana*, Field Maple *Acer campestre*, Ash *Fraxinus excelsior*, Common oak *Quercus robur* interwoven with climbers such as Traveller's joy *Clematis vitalba* and Honeysuckle *Lonicera periclymenum*. Ground flora often very similar to local woodlands.

### 330 Scrub

#### Definition

Vegetation dominated by more or less closed canopy shrubs up to 5 metres in height.

#### Exclusions

Excludes coppiced woodland, young plantation and hedgerows.

#### H3d Bramble scrub (shown in cream)

#### Definition

Dense scrub dominated with bramble *Rubus fruticosus agg.*

#### H3f Hawthorn Scrub (shown in olive green)

#### Definition



Dense scrub with dominant Hawthorn *Crataegus monogyna*

#### **411 Natural watercourses**

##### **Definition**

Natural running water channels, including rivers, springs, streams and temporary water course, with natural river beds and substrate.

##### **f Wetland**

#### **F2a Lowland fens (shown in light blue)**

##### **Definition**

Fens are wetlands which receive water and nutrients from the soil, rock and ground water as well as from rainfall. Fens are also often associated with accumulations of undecomposed waterlogged plant litter in the form of peat but not all fens form peat as a vegetative matter may be decomposed.

##### **Landscape ecological context**

Fens are characterised by their hydrological regime, base richness and nutrient status (fertility). Topogenous fens are those where water in the peat or soil are generally vertical. They include basin fens, fens of lake margins, some forms of floodplain fen, and the lag fens of raised bogs. Soligenous fens, on the other hand, develop where there is a distinct water movement through the system, so most movements are predominantly lateral rather than vertical and include valley mires, springs and flushes. Rich fens are associated with water derived from base-rich rocks such as chalk and other limestones and as such are generally confined to the lowlands. Many sites of rich fen are small and scattered often now occurring as "islands" of semi natural vegetation amongst a sea of agricultural land.

#### **128 Spring (Shown in purple blue)**

##### **Definition**

Gushing or trickling springs and the vegetation associated with them. Included are springs arising from a point source which seep at or over the surface and are not immediately channelised.

#### **R Rivers and lakes**

##### **Definition**

Inland surface waters (fresh water ecosystems)

##### **R2**

Rivers and streams

##### **Definition**

Rivers and streams from bank top to bank top, or, where there are no distinctive banks or banks are never over topped, includes the extent of the mean annual flood.

##### **Inclusions**

Includes: The open channel (which may contain submerged free floating or floating-leaved vegetation) water fringe vegetation and exposed sediments and shingle banks.

#### **Exclusions**

Adjacent wetland habitats.

#### **R2a Rivers (Priority habitat)**

##### **Definition**

River water bodies qualify as priority habitat either because they are considered to be near-natural. Or because they fulfil one or more specific criteria relating to BAP priority species or to particular habitat types.

#### **144 Chalk rivers (Shown in aqua)**

##### **Definition**

Chalk rivers have a characteristic plant community, often dominated in midchannel by Brook River crowfoot and *Ranunculus pencillatus subsp pseudofluitans* and Blunt-fruited starwort *Callitriche obtusangula* and along the edges by Watercress *Nasturtium aquatica*. They have low banks which support a range of water-loving plants.

#### **F2d Aquatic marginal vegetation (shown in yellow-green)**

##### **Definition**

Vegetation fringing open water often developed as a narrow (<0.5 m wide or < 0.25 ha in extent) part of a hydrosere between standing water and up slope vegetation.

##### **Species**

Species include Great willowherb *Epilobium hirsutum*, Meadowsweet *Filipendula ulmaria* and Hemlock water dropwort *Oenanthe crocata*.

#### **Things of note found in site 1**

All of the chalk-stream indicators that were found on the site last summer were found again including Brook Water Crowfoot, Water-cress, Floating Sweet-grass, *Hildenbrandia rivularis*, Fern-leaved Hook-moss, Fountain Feather-moss, Long-beaked Water Feather-moss and Endive peltia except the Blue Water Speedwell which is late in appearing - so was not seen at this early stage. If the year had been warmer then maybe the first signs of its leaves would have appeared? The same went for the Corky-fruited Water Dropwort and Jointed Rush which are good meadow indicator plants but no signs of them could be seen. However, instead there were the leaves of hybrid Southern Marsh and Common Spotted orchids.

*Photo 3. Adder's tongue fern area*



The real find was the discovery of Adder’s-tongue fern almost hidden in the thick vegetation. On further investigation remnant ant hills were found as well. This means this area of site 1 is of significant importance and with a little help could once again be a good example of a meadow beside a chalk stream which today is a rare thing to see.

#### **Future management recommendations**

**The area of tall herb habitat (hatched area on map) would benefit from being cut back in the autumn and the arisings raked to the side. If grazing could ever happen on this site again – then it would improve the site enormously.**

## **Site 2**

*Photo 4. Site 2*



**Figure 3.** Map showing habitats found on site 2.



(Google Earth Pro, 2020).

Using the Habitat UK phase 1 guidelines **site two** comprises of the following habitat descriptions: -

### **310 Grasslands**

#### **Definition**

Vegetation with more than 75% cover of herbaceous species such as grasses, sedges, rushes, herbs. Forbs (mosses and lichens) with wetland tall/herbs/sedges and halophytic species (salt loving) absent or occasional.

#### **g3 Neutral grassland (shown in yellow green)**

#### **Definition**

Vegetation dominated by grasses and herbs on a range of neutral soils usually with a Ph of between 4.5 and 6.5.

#### **Landscape and Ecological context**

It includes enclosed dry hay meadows and pastures together with a range of grasslands which are periodically inundated with water or permanently moist.

#### **Synonyms**

#### **Mesotrophic grasslands**

#### **Species**

Neutral grassland communities have few diagnostic indicator species but lack strong calcicoles or calcifuges characteristic of base-rich and acid soils respectively (in this case it is a neutral grassland leaning on the more base-rich because of being beside the South Downs. Neutral grassland differs

from agriculturally improved grassland by having less lush sward a greater range and higher cover of herbs and usually less than 25% cover of perennial rye-grass *Lolium perenne*.

### **G3a Lowland meadow**

#### **Definition**

Lowland neutral meadows and pastures consist of a rich mixture of native grasses and broad-leaved herbs. They occur throughout lowland UK, often shallow slopes or level ground with relatively deep soil that is neither strongly acidic nor lime-rich,

#### **Landscape and Ecological Context**

Most forms of neutral grassland across the enclosed lowland landscapes of the UK that have not been substantially modified on many farms in different parts of the UK. Use of particular fields for grazing-pasture and hay cropping changes over time but the characteristic plant community may persist with subtle changes in floristic composition.

#### **Species**

Up to 35 or more plant species may occur in a 2m x 2m sample including grasses such as Crested dog's-tail *Cynosus cristatus* and Red fescue *Festuca rubra* and herbs such as Knapweed *Centaurea nigra*, Bird's-foot trefoil *Lotus corniculatus*, Ox-eye daisy *Leucanthum vulgare*, Meadow vetchling *Lathyrus sylvestris*, Bulbous buttercup *Ranunculus bulbosus*. On the flood meadows some Meadowsweet *Filipendula ulmaria* and Meadow foxtail *Alopecurus pratensis* were present. The category of this site corresponds fairly closely with National Vegetation Communities MG4 (*Alopecurus pratensis* -*Sanguisorba officinalis* floodplain meadow) N.B. – Greater Burnet is absent in this instance.

### **77 Neglected**

#### **Definition**

The habitat is not being actively managed now and is likely to not have been managed for 3 to 10 years.

### **66 Frequently mown (shown in whitish green)**

#### **Definition**

Frequent mechanised cutting of grass as in garden lawns, golf fairways and urban parks managed as short grassland.

### **W Woodland and forest**

#### **Definition**

Land with more than 25% cover of trees that are 5m in height or over.

#### **Inclusions**

Recently felled woodland (but not clear-felled forestry plantations unless replanted). Coppice. Coppice with standards. Line of trees (but not hedgerows). Wet woodland and Bog woodland.

### **W1f7 Other lowland mixed deciduous woodland (Shown in green)**

#### **Definition**

Lowland mixed deciduous woodland that does not meet any set definition.

### **Landscape and Ecological Context**

Likely to include woodland is self-sown and or recently established in either urban or rural situations.

### **330 Scrub**

#### **Definition**

Vegetation dominated by more or less closed canopy shrubs up to 5 metres in height.

#### **Exclusions**

Excludes coppiced woodland, young plantation and hedgerows.

### **H3f Hawthorn Scrub (shown in olive green)**

#### **Definition**

Dense scrub with dominant Hawthorn *Crataegus monogyna*

### **H3d Bramble scrub (shown in cream)**

#### **Definition**

Dense scrub dominated with bramble *Rubus fruticosus agg.*

### **16 Tall herb (shown in orange)**

#### **Definition**

Stands of tall perennial or biennial dicotyledons, such as Stinging nettle *Urtica dioica* and Hogweed *Heracleum sphondylium*.

### **411 Natural watercourses**

#### **Definition**

Natural running water channels, including rivers, springs, streams and temporary water course, with natural river beds and substrate.

### **144 Chalk rivers (shown in aqua)**

#### **Definition**

Chalk rivers have a characteristic plant community, often dominated in midchannel by Brook River crowfoot and *Ranunculus pencillatus subsp pseudofluitans* and Blunt-fruited starwort *Callitriche obtusangula* and along the edges by Watercress *Nasturtium aquatica*. They have low banks which support a range of water-loving plants. **Note** – this site is very overgrown with little light penetrating through the vegetation and the only chalk loving species that can tolerate these conditions are the watercress *Nasturtium aquatica* and Floating Sweet-grass *Glyceria fluitans*.

### **F2d Aquatic marginal vegetation (shown in yellow-green)**

#### **Definition**



Vegetation fringing open water often developed as a narrow (<0.5 m wide or < 0.25 ha in extent) part of a hydrosere between standing water and up slope vegetation.

### Species

Species include Great willowherb *Epilobium hirsutum*, Meadowsweet *Filipendula ulmaria* and Hemlock water dropwort *Oenanthe crocata*.

### 362 Artificial Lake or pond (shown in blue)

#### Definition

Enclosed artificial standing water bodies containing artificial/managed banks.

#### Future management recommendations

The site has a wide range of habitats that are good for an assortment of wildlife species. Leaving it wild is good. However, there are some areas of tall herb habitat (hatched area on map) that would benefit from being cut back in the autumn and the arisings raked to the side. This will help reduce the nutrients and improve the conditions for the Wild carrot *Daucus carota*, Agrimony *Agrimonia eupatoria* and Meadow vetchling *Lathyrus sylvestris*.

## Site 3

Photo 5. Site 3



**Figure 4.** Map showing habitats found on site 3.



(Google Earth Pro, 2020).

Using the Habitat UK phase 1 guidelines **site three** comprises of the following habitat descriptions: -

### **W Woodland and forest**

#### **Definition**

Land with more than 25% cover of trees that are 5m in height or over.

#### **Inclusions**

Recently felled woodland (but not clear-felled forestry plantations unless replanted). Coppice. Coppice with standards. Line of trees (but not hedgerows). Wet woodland and Bog woodland.

### **Wlg6 Line of trees (shown in green)**

#### **Definition**

A line of trees at least 20 metres in length with open habitat on each side

#### **Inclusions**

Grown out hedgerows, avenues, narrow windbreaks, willows and alders along riversides.

#### **Exclusions**

Overgrown hedgerows still capable of being laid into a stock-proof hedge.

### **1180 Hedgerow (shown in bright green)**

A boundary line of scrub and trees over 20 m long and less than 5m wide and where any gaps between trees are less than 20m wide.

### **144 Chalk rivers (shown in aqua)**

### **Definition**

Chalk rivers have a characteristic plant community, often dominated in midchannel by Brook River crowfoot and *Ranunculus pencillatus subsp pseudofluitans* and Blunt-fruited starwort *Callitriche obtusangula* and along the edges by Watercress *Nasturtium aquatica*. They have low banks which support a range of water-loving plants.

### **39 Freshwater – man made**

#### **Definition**

Freshwater bodies that have been dug by humans.

### **412 Artificial watercourses**

#### **Definition**

Artificial running water such as canal, with man- made substrate.

### **F2d Aquatic marginal vegetation (shown in yellow-green)**

#### **Definition**

Vegetation fringing open water often developed as a narrow (<0.5 m wide or < 0.25 ha in extent) part of a hydrosere between standing water and up slope vegetation.

#### **Species**

Species include Great willowherb *Epilobium hirsutum*, Meadowsweet *Filipendula ulmaria* and Hemlock water dropwort *Oenanthe crocata*.

### **68 Mortared walls (shown in black)**

#### **Definition**

An upright construction of stone, bricks or masonry with mortar.

### **420 Green access route/pathway (shown in grey)**

#### **Definition**

Accessible linear open space provides opportunities for walking whether for leisure purposes or travel.

### **16 Tall herb (shown in orange)**

#### **Definition**

Stands of tall perennial or biennial dicotyledons, such as Stinging nettle *Urtica dioica* and Hogweed *Heracleum sphondylium*.

#### **Future management recommendations**

There is unfortunately some litter thrown into this section from time to time and it is good to remove it because as in the case of bottles and cans - small mammals can become trapped and drown in them.

The site whilst open as it is, has a very good number of chalk indicator species in it for an artificial stream. Large specimens of Endive peltia *Pellia endiviifolia* were found in the stream and climbing up



the sides of the mortared walls as well. To maintain these conditions any tree saplings should be removed if seen. If any areas of vegetation do start to take over then cutting back and clearing small sections at a time will allow for existing species to move to adjacent habitat to survive whilst at the same time - the opportunity for dormant plant species in the seed bank could grow again.

Winter Heliotrope was found on site near the children's nursery and is an invasive non-native species and it would be good if it could be removed before it spreads any further.

## Site 4

Photo 6. Site 4



Figure 5. Map showing habitats found on site 4.



(Google Earth Pro, 2020).

Using the Habitat UK phase 1 guidelines **site four** comprises of the following habitat descriptions: -

### **g3 Neutral grassland (shown in yellow green)**

#### **Definition**

Vegetation dominated by grasses and herbs on a range of neutral soils usually with a Ph of between 4.5 and 6.5

#### **Landscape and Ecological context**

It includes enclosed dry hay meadows and pastures together with a range of grasslands which are periodically inundated with water or permanently moist.

#### **Synonyms**

#### **Mesotrophic grasslands**

#### **Species**

Neutral grassland communities have few diagnostic indicator species but lack strong calcicoles or calcifuges characteristic of base-rich and acid soils respectively (in this case it is a neutral grassland leaning on the more base-rich because of being beside the South Downs and so has additional species such as Salad burnet *Sanguisorba minor*).

### **G3a Lowland meadow**

#### **Definition**

Lowland neutral meadows and pastures consist of a rich mixture of native grasses and broad-leaved herbs. They occur throughout lowland UK, often shallow slopes or level ground with relatively deep soil that is neither strongly acidic nor lime-rich,

#### **Landscape and Ecological Context**

Most forms of neutral grassland across the enclosed lowland landscapes of the UK that have not been substantially modified on many farms in different parts of the UK. Use of particular fields for grazing-pasture and hay cropping changes over time but the characteristic plant community may persist with subtle changes in floristic composition.

#### **Species**

Up to 35 or more plant species may occur in a 2m x 2m sample including grasses such as Crested dog's-tail *Cynosus cristatus* and Red fescue *Festuca rubra* and herbs such as Knapweed *Centaurea nigra*, Bird's-foot trefoil *Lotus corniculatus*, Ox-eye daisy *Leucanthum vulgare*, Meadow vetchling *Lathyrus sylvestris*, Bulbous buttercup *Ranunculus bulbosus*. Or on flood meadows some Meadowsweet *Filipendula ulmaria* and Meadow foxtail *Alopecurus pratensis*. The category of this site corresponds fairly closely with National Vegetation Communities MG4 (*Alopecurus pratensis* - *Sanguisorba officinalis* floodplain meadow) N.B. – Greater Burnet *Sanguisorba officinalis* is absent in this instance.

### **1011 Pasture or meadow**

**Definition**

Land used for grazing or managed as a meadow.

**58 Grazed****Definition**

Managed by farm animals, including exotic species.

**Exclusions**

Excludes habitats exclusively grazed by wild animals.

**230 Garden (shown in purple)****Definition**

Land within the curtilage of a residential property, managed for leisure, visual amenity, wildlife or food production or unmanaged inclusions.

**Inclusions**

Includes detached garages, green houses, polytunnels, sheds, communal amenity areas, pathways, drives and small or large areas of regularly mown grass.

**Exclusions**

Excludes the food production of grazed parts of small holdings and crofts. Excludes mappable habitats (but not “regularly mown grass” within gardens).

**W Woodland and forest****Definition**

Land with more than 25% cover of trees that are 5m in height or over.

**Inclusions**

Recently felled woodland (but not clear-felled forestry plantations unless replanted). Coppice. Coppice with standards. Line of trees (but not hedgerows). Wet woodland and Bog woodland.

**Wlg6 Line of trees (shown in green)****Definition**

A line of trees at least 20 metres in length with open habitat on each side

**Inclusions**

Grown out hedgerows, avenues, narrow windbreaks, willows and alders along riversides.

**Exclusions**

Overgrown hedgerows still capable of being laid into a stock-proof hedge.

**37 Semi natural woodland****Definition**



Composed of trees which are usually uneven-aged, of mixed density and forms and which occur in natural groupings.

#### **1180 Hedgerow (shown in bright green)**

A boundary line of scrub and trees over 20 m long and less than 5m wide and where any gaps between trees are less than 20m wide.

#### **144 Chalk rivers (shown in aqua)**

##### **Definition**

Chalk rivers have a characteristic plant community, often dominated in midchannel by Brook River crowfoot and *Ranunculus pencillatus subsp pseudofluitans* and Blunt-fruited starwort *Callitriche obtusangula* and along the edges by Watercress *Nasturtium aquatica*. They have low banks which support a range of water-loving plants. **Note** – this site is very overgrown with little light penetrating through the vegetation and the only chalk loving species that can tolerate these conditions are the watercress *Nasturtium aquatica* and Floating Sweet-grass *Glyceria fluitans*.

#### **F2d Aquatic marginal vegetation (shown in bright green)**

##### **Definition**

Vegetation fringing open water often developed as a narrow (<0.5 m wide or < 0.25 ha in extent) part of a hydrosere between standing water and up slope vegetation.

##### **Species**

Species include Great willowherb *Epilobium hirsutum*, Meadowsweet *Filipendula ulmaria* and Hemlock water dropwort *Oenanthe crocata*.

#### **362 Artificial Lake or pond (shown in blue)**

##### **Definition**

Enclosed artificial standing water bodies containing artificial/managed banks.

#### **111 Road (shown in grey)**

##### **Definition**

Transport route with metalled tarmac or concrete surface

##### **Inclusions**

Includes private estate roads. Includes pavement and other sealed surface roadside land.

#### **115 Track (shown in blue grey)**

##### **Definition**

A route, more or less defined and approximately of vehicle width used as transport by vehicles, on foot, cycle or horse, unsurfaced.

##### **Exclusions**

Excludes roads, paths of less than vehicle width.

**Building (shown in black)**

**79 Ancient management (shown in purple hatching)**

**Definition**

There is evidence of former use, at least 50 years ago.

**Future management recommendations**

Continued grazing of the grasslands is beneficial for many of the plant species that grow here. Grazing - then leaving areas to flower on a rotation basis will be beneficial to increase insect species too. Providing water troughs and keeping the livestock out of the natural chalk streams will benefit these areas as well.

**Site 5**

*Photo 7. Site 5*



**Figure 6. Map showing habitats found on site 5.**



(Google Earth Pro, 2020).

Using the Habitat UK phase 1 guidelines **site five** comprises of the following habitat descriptions: -

### **37 Semi natural woodland (shown in green)**

#### **Definition**

Composed of trees which are usually uneven-aged, of mixed density and forms and which occur in natural groupings.

### **330 Scrub**

#### **Definition**

Vegetation dominated by more or less closed canopy shrubs up to 5 metres in height.

#### **Exclusions**

Excludes coppiced woodland, young plantation and hedgerows.

### **H3d Bramble scrub (shown in cream)**

#### **Definition**

Dense scrub dominated with bramble *Rubus fruticosus agg.*

### **39 Freshwater – man made**

#### **Definition**

Freshwater bodies that have been dug by humans.

### **412 Artificial watercourses**

#### **Definition**

Artificial running water such as canal, with man- made substrate.

### **77 Neglected**

#### **Definition**

The habitat is not being actively managed now and is likely to not have been managed for 3 to 10 years.

### **130 Ecotone**

#### **Definition**

Transitional area between three different ecosystems in this case tall herb with aquatic marginal vegetation mixed in with chalk river, with species characteristic of each and often some restricted to the narrow linear space.

### **F2d Aquatic marginal vegetation (shown in bright green)**

#### **Definition**

Vegetation fringing open water often developed as a narrow (<0.5 m wide or < 0.25 ha in extent) part of a hydrosere between standing water and up slope vegetation.

## Species

Species include Great willowherb *Epilobium hirsutum*, Meadowsweet *Filipendula ulmaria* and Hemlock water dropwort *Oenanthe crocata*.

### 144 Chalk rivers (shown in aqua)

#### Definition

Chalk rivers have a characteristic plant community, often dominated in midchannel by Brook River crowfoot and *Ranunculus pencillatus subsp pseudofluitans* and Blunt-fruited starwort *Callitriche obtusangula* and along the edges by Watercress *Nasturtium aquatica*. They have low banks which support a range of water-loving plants. **Note** – this site is very overgrown with little light penetrating through the vegetation and the only chalk loving species that can tolerate these conditions are the watercress *Nasturtium aquatica* and Floating Sweet-grass *Glyceria fluitans*.

#### Future management recommendations

This site has the potential to have more chalk stream loving species along it if it is to be opened up. However, works like this have to be done slowly over a period of many years because many species will have established themselves in the existing overgrown state it is in at present.

Cutting back and clearing small sections at a time will allow for existing species to move to adjacent habitat to survive whilst at the same time the opportunity for dormant plant species in the seed bank could grow again. Rotational removal of vegetation on a three-year cycle in linear strips would be beneficial to this site and not cause too much disruption to existing species if the works were carried out in the winter and the debris could be left nearby for things to crawl out from.

## 7. Conclusion

The spring survey found that there are a good number of chalk-stream species along the Ems. This second survey in conjunction with the first survey of 2020 shows there are a good variety of habitats found along the sections of the Ems and wildlife corridor that are worthy of protection and future enhancement for the existing wildlife that lives along the river and adjoining edges.

## 8. References

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## 9. Appendix 1

### 1.1

#### Ems River Corridor Survey Site 1

Parish	Westbourne
Scale	Cover-abundance
Dominant = D	(91 - 100%)
Abundant = A	(51 - 90%)
Frequent = F	(21 - 50%)
Occasional = O	(6 - 20%)
Rare = R	(0 - 5%)
New species found in 2021	Indicated in <b>green</b>
Chalk Indicator species	Indicated in <b>turquoise</b>
Recorded last year but not in Spring survey	Indicated in <b>red</b>
Non - native invasive plant species	Indicated in <b>orange</b>

Latin Name	Common Name	Dominant	Abundant	Frequent	Occasional	Rare
<b>TREES</b>						
<i>Acer campestre</i>	Field Maple				Occasional	
<i>Acer pseudoplatanus</i>	Sycamore					Rare
<i>Crataegus monogyna</i>	Hawthorn				Occasional	

<i>Euonymus europaea</i>	Spindle		Rare
<i>Fraxinus excelsior</i>	Ash	Occasional	
<i>Ilex aquifolium</i>	Holly		Rare
<i>Pinus sylvestris</i>	Scot's pine		Rare
<i>Prunus spinosa</i>	Blackthorn	Occasional	
<i>Quercus robur</i>	Pedunculate Oak	Occasional	
<i>Salix cinerea</i>	Sallow	Frequent	
<i>Salix fragilis</i>	Crack Willow	Occasional	
<i>Salix x sepulcralis</i>	Weeping Willow		Rare
<i>Sambucus nigra</i>	Elder	Occasional	
<i>Taxus baccata</i>	Yew		Rare
<i>Ulmus procera</i>	Common elm		Rare
<b>SHRUBS</b>			
<i>Hedera helix</i>	Ivy	Occasional	
<i>Ligustrum vulgare</i>	Wild Privet		Rare
<i>Lonicera periclymenum</i>	Honeysuckle		Rare
<i>Prunus laurocerasus</i>	Cherry laurel		Rare
<i>Ribes nigrum</i>	Black Currant		Rare
<i>Ribes rubrum</i>	Red Currant		Rare
<i>Rosa canina</i>	Dog Rose		Rare
<b>FLOWERS</b>			
<i>Achillea millefolium</i>	Yarrow	Occasional	
<i>Aethusa cynapium</i>	Fool's Parsley		Rare
<i>Agrimonia eupatoria</i>	Agrimony	Occasional	
<i>Ajuga reptans</i>	Bugle		Rare
<i>Alisma plantago-aquatica</i>	Water Plantain		Rare
<i>Alliaria petiolata</i>	Garlic mustard	Occasional	
<i>Allium ursinum</i>	Wild garlic		Rare
<i>Angelica sylvestris</i>	Angelica	Occasional	
<i>Anthriscus sylvestris</i>	Cow Parsley		Rare
<i>Apium nodiflorum</i>	Fool's Water-cress	Occasional	
<i>Arctium minor</i>	Lesser Burdock		Rare
<i>Arum maculatum</i>	Lords and Ladies		Rare
<i>Bellis perennis</i>	Daisy		Rare
<i>Calystegia sepium</i>	Hedge Bindweed	Occasional	
<i>Cardamine pratensis</i>	Cuckoo flower		Rare
<i>Centaurea nigra</i>	Knapweed	Occasional	
<i>Cerastium fontanum</i>	Common Mouse-ear		Rare
<i>Chaerophyllum temulum</i>	Rough Chervil	Occasional	
<i>Circaea lutetiana</i>	Enchanter's Nightshade	Occasional	
<i>Cirsium arvense</i>	Creeping Thistle	Frequent	
<i>Cirsium vulgare</i>	Spear Thistle	Occasional	
<i>Crepis capillaris</i>	Smooth Hawk's-beard		Rare
<i>Dactylorhiza x grandis</i>	Hybrid Common spotted and Southern marsh orchid		Rare
<i>Dipsacus fullonum</i>	Teasel	Occasional	



<i>Epilobium adenocaulon</i>	American Willow-herb	Occasional	
<i>Epilobium hirsutum</i>	Great Willow-herb	Occasional	
<i>Ficaria verna</i>	Lesser celandine	Occasional	
<i>Filipendula ulmaria</i>	Meadow Sweet		Rare
<i>Galium aparine</i>	Cleavers	Frequent	
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill		Rare
<i>Geranium robertianum</i>	Herb Robert		Rare
<i>Geum urbanum</i>	Wood Avens	Occasional	
<i>Glechoma hederacea</i>	Ground Ivy	Occasional	
<i>Helminthotheca echioides</i>	Bristly Ox-tongue	Occasional	
<i>Heracleum sphondylium</i>	Hogweed	Occasional	
<i>Hyacinthoides x massartiana</i>	Hybrid bluebell		Rare
<i>Hypericum tetrapterum</i>	Square-stalked St John's-wort	Occasional	
<i>Humulus lupulus</i>	Hop		Rare
<i>Iris pseudacorus</i>	Yellow Iris	Occasional	
<i>Lamium album</i>	White dead-nettle	Occasional	
<i>Lathyrus pratensis</i>	Meadow Vetchling	Occasional	
<i>Leucojum vernum</i>	Spring snowflake		Rare
<i>Lycopus europaeus</i>	Gypsywort	Occasional	
<i>Matricaria chamomilla</i>	Scented Mayweed		Rare
<i>Medicago arabica</i>	Spotted medick		Rare
<i>Mentha aquatica</i>	Water Mint	Occasional	
<i>Myotis arvensis</i>	Field Forget-me-not		Rare
<i>Narcissus sp</i>	Garden Daffodil		Rare
<i>Odontites vernus</i>	Red Bartsia	Occasional	
<i>Oenanthe crocata</i>	Hemlock Water Hemlock	Occasional	
<i>Persicaria lapathifolia</i>	Pale Persicaria	Occasional	
<i>Persicaria maculosa</i>	Redshanks		Rare
<i>Plantago lanceolata</i>	Ribwort Plantain	Occasional	
<i>Plantago major</i>	Greater Plantain		Rare
<i>Potentilla anserina</i>	Silverweed	Occasional	
<i>Potentilla reptans</i>	Creeping Cinquefoil	Occasional	
<i>Prunella vulgaris</i>	Selfheal	Occasional	
<i>Pulicaria dysenterica</i>	Common Fleabane	Occasional	
<i>Ranunculus pencillatus subsp pseudofluitans</i>	Brook Water Crowfoot	Occasional	
<i>Ranunculus repens</i>	Creeping Buttercup	Occasional	
<i>Ranunculus acris</i>	Meadow Buttercup	Occasional	
<i>Rorippa-nasturtium-aquaticum</i>	Water-cress	Occasional	
<i>Rubus caesius</i>	Dewberry	Occasional	
<i>Rubus fruticosus agg</i>	Bramble	Frequent	
<i>Rumex acetosa</i>	Common sorrel	Occasional	
<i>Rumex crispus</i>	Curled Dock	Occasional	
<i>Rumex obtusifolius</i>	Broad-leaved Dock		Rare
<i>Rumex sanguineus</i>	Wood Dock	Occasional	
<i>Scrophularia auriculata</i>	Water Figwort	Occasional	
<i>Senecio jacobea</i>	Common Ragwort	Occasional	

<i>Senecio squalidis</i>	Oxford Ragwort	Occasional	
<i>Solanum dulcamara</i>	Bittersweet	Occasional	
<i>Sonchus asper</i>	Prickly Sow-thistle		Rare
<i>Sonchus oleraceus</i>	Smooth Sow-thistle	Occasional	
<i>Sparganium erectum</i>	Branched Bur-reed	Occasional	
<i>Stachys sylvatica</i>	Hedge Woundwort	Occasional	
<i>Tamus communis</i>	Black Bryony	Occasional	
<i>Taraxacum officinale agg</i>	Dandelion	Occasional	
<i>Trifolium pratense</i>	Red Clover	Occasional	
<i>Trifolium repens</i>	White Clover	Occasional	
<i>Urtica dioica</i>	Stinging Nettle	Frequent	
<i>Veronica anagallis-aquatica</i>	Blue Water Speedwell	Occasional	
<i>Veronica montana</i>	Wood Speedwell		Rare
<i>Veronica serpyllifolia</i>	Thyme-leaved Speedwell	Occasional	
<i>Vinca major</i>	Greater Periwinkle		Rare
<b>GRASSES</b>			
<i>Agrostis stolonifera</i>	Creeping Bent	Occasional	
<i>Alopecurus myosuroides</i>	Meadow Foxtail	Occasional	
<i>Arrhenatherum elatius</i>	False Oat-grass	Frequent	
<i>Brachipodium sylvaticum</i>	False Brome	Occasional	
<i>Bromus hordeaceus</i>	Soft Brome	Occasional	
<i>Dactylis glomerata</i>	Cock's-foot	Occasional	
<i>Festuca arundinacea</i>	Tall Fescue		Rare
<i>Festuca rubra</i>	Red Fescue		Rare
<i>Glyceria fluitans</i>	Floating Sweet-grass		Rare
<i>Holcus lanatus</i>	Yorkshire Fog	Frequent	
<i>Holcus mollis</i>	Soft creeping-grass	Occasional	
<i>Hordeum murinum</i>	Wall Barley		Rare
<i>Lolium perenne</i>	Perennial Rye-grass	Occasional	
<i>Phalaris arundinacea</i>	Canary Reed	Occasional	
<i>Phleum pratense</i>	Timothy	Occasional	
<i>Poa annua</i>	Annual Meadow-grass		Rare
<i>Poa pratensis</i>	Smooth Meadow-grass		Rare
<i>Poa trivialis</i>	Rough Meadow-grass	Occasional	
<b>FERNS</b>			
<i>Asplenium scolopendrium</i>	Hart's-tongue fern		Rare
<i>Dryopteris dilatata</i>	Broad-leaved Buckler fern		Rare
<i>Dryopteris filix-mas</i>	Male fern		Rare
<i>Ophioglossum vulgatum</i>	Adder's-tongue fern	Occasional	
<b>SEDGES</b>			
<i>Carex acutiformis</i>	Lesser Pond Sedge	Occasional	
<i>Carex divulsa</i>	Grey Sedge		Rare
<i>Carex hirta</i>	Hairy Sedge	Occasional	
<i>Carex pendula</i>	Pendulous Sedge		Rare
<i>Carex remota</i>	Remote Sedge		Rare
<i>Carex sylvatica</i>	Wood Sedge	Occasional	

**HORSETAILS**

<i>Equisetum arvense</i>	Field Horsetail	Occasional	
<i>Equisetum palustre</i>	Marsh Horsetail	Occasional	

**RUSHES**

<i>Juncus articulatus</i>	Jointed Rush		Rare
<i>Juncus effusus</i>	Soft Rush		Rare
<i>Juncus inflexus</i>	Hard Rush	Occasional	

**WOOD RUSHES**

<i>Luzula campestris</i>	Field woodrush	Occasional	
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**MOSSES**

<i>Brachythecium rivulare</i>	River Feather-moss		Rare
<i>Brachythecium rutabulum</i>	Rough-stalked Feather-moss	Occasional	
<i>Bryum capillare</i>	Capillary Thread-moss		Rare
<i>Campylopus introflexus</i>	Heath Star-moss		Rare
<i>Cratoneuron filicinum</i>	Fern-leaved Hook-moss	Occasional	
<i>Cryphaea heteromalla</i>	Lateral Cryphea	Occasional	
<i>Dicranoweisia cirrata</i>	Common Pincushion		Rare
<i>Fissidens taxifolius</i>	Common Pocket-moss	Occasional	
<i>Hygroamblystegium tenax</i>	Fountain Feather-moss		Rare
<i>Hypnum cupressiforme</i>	Cypress-leaved Plait-moss	Occasional	
<i>Kindbergia praelonga</i>	Common Feather-moss	Occasional	
<i>Orthotrichum affine</i>	Wood Bristle-moss	Occasional	
<i>Oxyrrhynchium hians</i>	Swartz's Feather-moss		Rare
<i>Platyhypnidium ripariodes</i>	Long-beaked Water Feather-moss	Occasional	

**LIVERWORTS**

<i>Frullania dilatata</i>	Dilated Scalewort	Occasional	
<i>Metzgeria furcata</i>	Forked Veilwort	Occasional	
<i>Microlejeunea ulicina</i>	Fairy Beads		Rare
<i>Pellia endiviifolia</i>	Endive Pellia	Occasional	

**LICHENS**

<i>Evernia prunastri</i>		Occasional	
<i>Flavoparmelia caperata</i>		Occasional	
<i>Lecanora chlorotera</i>			Rare
<i>Parmelia saxatilis</i>	Crottle	Frequent	
<i>Parmelia sulcata</i>		Occasional	
<i>Physcia adscendens</i>		Occasional	
<i>Physcia tenella</i>		Occasional	
<i>Ramalina farinacea</i>		Occasional	
<i>Ramalina fastigiata</i>			Rare
<i>Xanthoria parietina</i>		Frequent	

**ALGAE**

<i>Hildenbrandia rivularis</i>		Occasional	
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**FUNGI**

<i>Daedaleopsis confragosa</i>	Blushing Bracket		Rare
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**BIRDS**

<i>Branta canadensis</i>	Canada goose	2	
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<i>Carduelis carduelis</i>	Goldfinch	3	
<i>Columba palumbus</i>	Wood Pigeon	5	
<i>Corvus corone</i>	Carrion Crow	1	
<i>Cyanistes caeruleus</i>	Blue Tit	1	
<i>Garrulus glandanus</i>	Jay	1	
<i>Hirundo rustica</i>	Barn Swallow	2	
<i>Parus major</i>	Great Tit	2	
<i>Phasianus colchicus</i>	Pheasant	1	
<i>Phylloscopus collybita</i>	Chiffchaff	1	
<i>Regulus regulus</i>	Goldcrest	1	
<i>Sylvia communis</i>	Whitethroat	1	
<i>Streptopelia decaocto</i>	Collard Dove	2	
<i>Tyto alba</i>	Barn owl	1	
<i>Troglodytes troglodytes</i>	Wren	1	
<i>Turdus merula</i>	Blackbird	1	
<b>MAMMALS</b>			
<i>Arvicola amphibius</i>	Water vole		Foot prints
<i>Capreolus capreolus</i>	Roe		slot prints in mud
<i>Erinaceus europaeus</i>	Hedgehog		Droppings
<i>Meles meles</i>	Badger		Droppings
<i>Talpa talpa</i>	Mole		Mole hills
<b>BUTTERFLIES</b>			
<i>Aglais io</i>	Peacock	2	
<i>Anthocharis cardamines</i>	Orange tip	1	
<b>MOTHS</b>			
<i>Timandra comae</i>	Blood-vein	1	
<b>DRAGONFLIES</b>			
<i>Aeshna cyanea</i>	Southern Hawker	1	
<i>Calopteryx splendens</i>	Banded Demoiselle	1	
<i>Ischnura elegans</i>	Blue-tailed Damselfly	4	
<b>CRICKETS</b>			
<i>Metrioptera roeselii</i>	Roesel's Bush Cricket	1	
<b>BEEES</b>			
<i>Apis mellifera</i>	Honey Bee	100+	
<i>Bombus pratorum</i>	Early bumble bee	1	
<b>FISH</b>			
<i>Salmo trutta</i>	Trout	6	

## 1.2

### Ems River Corridor Survey site 2

Parish	Westbourne
Scale	Cover-abundance
Dominant = D	(91 - 100%)
Abundant = A	(51 - 90%)
Frequent = F	(21 - 50%)

Occasional = O (6 -20%)  
 Rare = R (0 -5%)  
 New species found in 2021 Indicated in green  
 Chalk Indicator species Indicated in turquoise  
 Recorded last year but not in Spring survey Indicated in red

Latin Name	Common Name	Dominant	Abundant	Frequent	Occasional	Rare
<b>TREES</b>						
<i>Acer pseudoplatanus</i>	Sycamore					Rare
<i>Betula pendula</i>	Silver Birch					Rare
<i>Cornus sanguinea</i>	Dogwood					Rare
<i>Corylus avellana</i>	Hazel					Rare
<i>Crataegus monogyna</i>	Hawthorn					Rare
<i>Cupressus macrocarpa</i>	Monterey Cypress					Rare
<i>Fraxinus excelsior</i>	Ash					Rare
<i>Malus domestica</i>	Apple					Rare
<i>Prunus cerasifera</i>	Purple-leaved plum					Rare
<i>Prunus sp</i>	Cherry sp					Rare
<i>Salix cinerea</i>	Sallow				Occasional	
<i>Salix fragilis</i>	Crack Willow				Occasional	
<i>Salix x sepulcralis</i>	Weeping Willow					Rare
<i>Sambucus nigra</i>	Elder				Occasional	
<b>SHRUBS</b>						
<i>Hedera helix</i>	Ivy					Rare
<i>Lonicera periclymenum</i>	Honeysuckle					Rare
<i>Ribes sanguineum</i>	Flowering currant					Rare
<i>Rosa canina</i>	Dog rose					Rare
<i>Symphoricarpos albus</i>	Snowberry					Rare
<b>FLOWERS</b>						
<i>Achillea millefolium</i>	Yarrow				Occasional	
<i>Aethusa cynapium</i>	Fool's Parsley					Rare
<i>Aegopodium podagraria</i>	Ground elder					Rare
<i>Agrimonia eupatoria</i>	Agrimony				Occasional	
<i>Anagalis arvensis</i>	Scarlet Pimpernel					Rare
<i>Angelica sylvestris</i>	Angelica					Rare
<i>Anthriscus sylvestris</i>	Cow Parsley					Rare
<i>Arctium minor</i>	Lesser Burdock					Rare
<i>Arum maculatum</i>	Lords and Ladies					Rare
<i>Barbarea vulgaris</i>	Winter-cress					Rare
<i>Bellis perennis</i>	Daisy				Occasional	
<i>Borago officinalis</i>	Borage					Rare
<i>Bryonia dioica</i>	White Bryony					Rare
<i>Caltha palustris</i>	Marsh marigold					Rare
<i>Calystegia sepium</i>	Hedge Bindweed				Occasional	
<i>Capsella bursa-pastoris</i>	Shepherd's purse				Occasional	
<i>Cardamine flexuosa</i>	Wavy bitter-cress				Occasional	

<i>Cerastium glomeratum</i>	Clustered Mouse-ear		Occasional
<i>Ceratophyllum demersum</i>	Common hornwort		Rare
<i>Centurea nigra</i>	Knapweed		Rare
<i>Chenopodium album</i>	Fathen		Rare
<i>Circaea lutetiana</i>	Enchanter's Nightshade		Rare
<i>Cirsium arvense</i>	Creeping Thistle	Frequent	
<i>Cirsium vulgare</i>	Spear Thistle		Occasional
<i>Coronopus didymus</i>	Lesser Swine-cress		Rare
<i>Daucus carota</i>	Wild carrot		Rare
<i>Epilobium adenocaulon</i>	American Willow-herb		Occasional
<i>Epilobium hirsutum</i>	Great Willow-herb		Occasional
<i>Eupatorium cannabinum</i>	Hemp Agrimony		Rare
<i>Ficaria verna</i>	Lesser celandine		Occasional
<i>Filipendula ulmaria</i>	Meadow Sweet		Occasional
<i>Galium aparine</i>	Cleavers	Frequent	
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill		Occasional
<i>Geranium molle</i>	Dove's-foot crane'-bill		Rare
<i>Geranium robertianum</i>	Herb Robert		Rare
<i>Geum urbanum</i>	Wood Avens		Rare
<i>Glechoma hederacea</i>	Ground Ivy		Occasional
<i>Helminthotheca echioides</i>	Bristly Ox-tongue		Occasional
<i>Heracleum sphondylium</i>	Hogweed		Occasional
<i>Hypericum tetrapterum</i>	Square-stalked St John's-wort		Occasional
<i>Hypochaeris radicata</i>	Common Cat's-ear		Rare
<i>Iris pseudacorus</i>	Yellow Iris		Occasional
<i>Lamium album</i>	White Dead Nettle		Rare
<i>Lamium purpureum</i>	Red Nettle		Rare
<i>Lathyrus latifolius</i>	Broad-leaved Everlasting Pea		Rare
<i>Lathyrus pratensis</i>	Meadow vetchling		Rare
<i>Lapsana communis</i>	Nipplewort		Rare
<i>Leucanthemum vulgare</i>	Ox-eye daisy		Rare
<i>Leucojum vernum</i>	Spring snow-flake		Rare
<i>Lotus corniculatus</i>	Bird's-foot trefoil		Rare
<i>Lycopus europaeus</i>	Gypsywort		Rare
<i>Malva neglecta</i>	Dwarf Mallow		Rare
<i>Malva sylvestris</i>	Common Mallow		Rare
<i>Matricaria discoidea</i>	Pineapple-weed		Rare
<i>Medicago arabica</i>	Spotted medick		Rare
<i>Melissa officinale</i>	Lemon balm		Rare
<i>Mentha aquatica</i>	Water Mint		Occasional
<i>Myosotis sylvatica</i>	Wood forget-me-not		Rare
<i>Nasturtium officinalis</i>	Water-cress		Rare
<i>Nymphaea alba</i>	White Water Lily		Occasional
<i>Origanum vulgare</i>	Marjoram		Rare
<i>Parietaria judaica</i>	Pellitory of the wall		Rare
<i>Persicaria maculosa</i>	Redshank		Occasional



<i>Petasites fragrans</i>	Winter heliotrope		Rare
<i>Phaseolus coccineus</i>	Runner Bean		Rare
<i>Plantago lanceolata</i>	Ribwort Plantain	Occasional	
<i>Plantago major</i>	Greater Plantain		Rare
<i>Polygonum arenastrum</i>	Knotgrass		Rare
<i>Potentilla reptans</i>	Creeping Cinquefoil		Rare
<i>Prunella vulgaris</i>	Selfheal	Occasional	
<i>Primula veris</i>	Cowslip		Rare
<i>Primula vulgaris</i>	Primrose		Rare
<i>Pulicaria dysenterica</i>	Common Fleabane	Occasional	
<i>Ranunculus acris</i>	Meadow Buttercup	Occasional	
<i>Ranunculus bulbosus</i>	Bulbous buttercup		Rare
<i>Ranunculus repens</i>	Creeping Buttercup	Occasional	
<i>Rubus fruticosus agg</i>	Bramble	Frequent	
<i>Rumex crispus</i>	Curled Dock	Occasional	
<i>Rumex obtusifolius</i>	Broad-leaved Dock	Occasional	
<i>Scrophularia auriculata</i>	Water Figwort	Occasional	
<i>Senecio jacobea</i>	Common Ragwort	Occasional	
<i>Senecio vulgaris</i>	Groundsel		Rare
<i>Silene dioica</i>	Red campion		Rare
<i>Solanum dulcamara</i>	Bittersweet	Occasional	
<i>Solidago canadensis</i>	Canadian Goldenrod		Rare
<i>Sonchus asper</i>	Prickly Sow-thistle		Rare
<i>Sonchus oleraceus</i>	Smooth Sow-thistle		Rare
<i>Sparganium erectum</i>	Branched Bur-reed	Occasional	
<i>Stachys sylvatica</i>	Hedge Woundwort	Occasional	
<i>Symphytum officinale</i>	Common Comfrey		Rare
<i>Taraxacum officinale agg</i>	Dandelion	Occasional	
<i>Trifolium pratense</i>	Red Clover	Occasional	
<i>Trifolium repens</i>	White Clover	Occasional	
<i>Typha latifolia</i>	Greater Reedmace	Occasional	
<i>Urtica dioica</i>	Stinging Nettle	Frequent	
<i>Verbascum thapsus</i>	Common Mullein		Rare
<i>Veronica hederifolia</i>	Ivy-leaved speedwell		Rare
<i>Vicia sativa</i>	Common vetch	Occasional	
<b>GRASSES</b>			
<i>Agrostis stolonifera</i>	Creeping Bent	Occasional	
<i>Alopecurus pratensis</i>	Meadow foxtail	Occasional	
<i>Anthoxanthum odoratum</i>	Sweet vernal-grass	Occasional	
<i>Arrhenatherum elatius</i>	False Oat-grass	Frequent	
<i>Bromus sterilis</i>	Barren brome		Rare
<i>Dactylis glomerata</i>	Cock's-foot	Occasional	
<i>Glyceria fluitans</i>	Floating Sweet-grass		Rare
<i>Holcus lanatus</i>	Yorkshire Fog	Frequent	
<i>Lolium perenne</i>	Perennial Rye-grass	Occasional	
<i>Phalaris arundinacea</i>	Canary Reed		Rare

<i>Phleum pratense</i>	Timothy		Occasional
<i>Poa annua</i>	Annual Meadow-grass		Rare
<i>Poa pratensis</i>	Smooth Meadow-grass		Rare
<i>Poa trivialis</i>	Rough Meadow-grass		Occasional
<b>SEDGES</b>			
<i>Carex hirta</i>	Hairy Sedge	Frequent	
<i>Carex pendula</i>	Pendulous Sedge		Rare
<b>HORSETAILS</b>			
<i>Equisetum arvensis</i>	Field Horsetail		Occasional
<b>RUSHES</b>			
<i>Juncus acutiflorus</i>	Sharp-flowered Rush		Rare
<i>Juncus conglomeratus</i>	Compact Rush		Rare
<i>Juncus effusus</i>	Soft Rush		Occasional
<i>Juncus inflexus</i>	Hard Rush		Rare
<b>CLUB-RUSHES</b>			
<i>Schoenoplectus lacustris</i>	Common Club-rush		Occasional
<b>MOSSES</b>			
<i>Brachythecium rutabulum</i>	Rough-stalked Feather-moss		Occasional
<i>Funaria hygrometrica</i>	Bonfire-moss		Rare
<i>Hypnum cupressiforme</i>	Cypress-leaved Plait-moss		Occasional
<i>Kindbergia praelonga</i>	Common Feather-moss		Occasional
<i>Orthotrichum affine</i>	Wood Bristle-moss		Occasional
<i>Pseudoscleropodium purum</i>	Neat feather-moss		Rare
<b>LIVERWORTS</b>			
<i>Metzgeria furcata</i>	Forked Veilwort		Occasional
<b>LICHENS</b>			
<i>Evernia prunastri</i>			Occasional
<i>Flavoparmelia caperata</i>			Occasional
<i>Lecanora chlorotera</i>			Rare
<i>Parmelia saxatilis</i>	Crottle	Frequent	
<i>Physcia adscendens</i>			Occasional
<i>Physcia tenella</i>			Occasional
<i>Xanthoria parietina</i>		Frequent	
<b>FUNGI</b>			
<i>Daldinia concentrica</i>	King Alfred's cake	1	
<b>BIRDS</b>			
		<b>Numbers</b>	
<i>Alcedo atthis</i>	Kingfisher	1	
<i>Columba palumbus</i>	Wood Pigeon	2	
<i>Cettia cetti</i>	Cettis warbler	1	
<i>Corvus corone</i>	Carrion Crow	1	
<i>Erithacus rubecula</i>	Robin	1	
<i>Gallinula chloropus</i>	Moorhen	2	
<i>Hirundo rustica</i>	Barn Swallow	3	
<i>Ichthyaetus melanocephalus</i>	Mediterranean gull	2	
<i>Muscicapa striata</i>	Spotted Flycatcher	1	
<i>Parus major</i>	Great Tit	2	

<i>Phasianus colchicus</i>	Pheasant	1
<i>Prunella modularis</i>	Duncock	1
<i>Streptopelia decaocto</i>	Collard dove	2
<i>Sturnus vulgaris</i>	Starling	50
<i>Sylvia atricapilla</i>	Black cap	2
<i>Turdus philomelos</i>	Song thrush	1

#### MAMMALS

<i>Arvicola amphibius</i>	Water Vole	Droppings found
<i>Capreolus capreolus</i>	Roe	2
<i>Sciurus carolinensis</i>	Grey squirrel	2

#### BUTTERFLIES

<i>Anthocharis cardamines</i>	Orange tip	2
<i>Celastrina argiolus</i>	Holly blue	1
<i>Maniola jurtina</i>	Meadow Brown	4
<i>Pieris brassicae</i>	Large White	2
<i>Pieris rapae</i>	Small White	2
<i>Polymmatas icarus</i>	Common Blue	6
<i>Vanessa atalanta</i>	Red Admiral	1

#### MOTHS

<i>Autographa gamma</i>	Silver Y	1
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#### FLIES

<i>Bibio marci</i>	St Mark's fly	2
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#### BEETLES

<i>Coccinella septempunctata</i>	Seven-spot ladybird	1
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#### DRAGONFLIES

<i>Anax imperator</i>	Emperor Dragonfly	1
<i>Ischnura elegans</i>	Blue-tailed Damselfly	2
<i>Sympetrum sanguineum</i>	Ruddy Darter	1

#### BEES

<i>Apis mellifera</i>	Honey Bee	100+
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## 1.3

### Ems River Corridor Survey site 3

Parish	Westbourne
Scale	Cover-abundance
Dominant = D	(91 - 100%)
Abundant = A	(51 - 90%)
Frequent = F	(21 - 50%)
Occasional = O	(6 - 20%)
Rare = R	(0 - 5%)
New species found in 2021	Indicated in green
Chalk Indicator species	Indicated in turquoise

Recorded last year but not in Spring survey

Indicated in **red**

Non – native invasive plant species

Indicated in **orange**

Latin Name	Common Name	Dominant	Abundant	Frequent	Occasional	Rare
<b>TREES</b>						
<i>Crataegus monogyna</i>	Hawthorn					Rare
<i>Fraxinus excelsior</i>	Ash					Rare
<i>Salix alba</i>	White Willow					Rare
<i>Salix cinerea</i>	Sallow					Rare
<i>Salix fragilis</i>	Crack Willow				Occasional	
<b>SHRUBS</b>						
<i>Hedera helix</i>	Ivy					Rare
<b>FLOWERS</b>						
<i>Anthriscus sylvestris</i>	Cow Parsley					Rare
<i>Apium nodiflorum</i>	Fool's Water-cress				Occasional	
<i>Arum maculatum</i>	Lords and ladies					Rare
<i>Callitriche obtusangula</i>	Blunt-fruited water starwort					Rare
<i>Callitriche sp</i>	Starwort sp					Rare
<i>Calystegia sepium</i>	Hedge Bindweed					Rare
<i>Cerastium glomeratum</i>	Sticky Mouse-ear					Rare
<i>Cerastium fontanum</i>	Common Mouse-ear					Rare
<i>Cirsium vulgare</i>	Spear Thistle				Occasional	
<i>Coronopus didymus</i>	Lesser Swine-cress					Rare
<i>Crepis capillaris</i>	Smooth Hawk's-beard					Rare
<i>Epilobium adenocaulon</i>	American Willowherb				Occasional	
<i>Epilobium hirsutum</i>	Great Willowherb				Occasional	
<i>Filipendula ulmaria</i>	Meadow Sweet				Occasional	
<i>Galium aparine</i>	Cleavers				Occasional	
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill				Occasional	
<i>Geum urbanum</i>	Wood Avens					Rare
<i>Glechoma hederacea</i>	Ground Ivy					Rare
<i>Heracleum sphondylium</i>	Hogweed					Rare
<i>Hyacinthoides x massartiana</i>	Hybrid bluebell					Rare
<i>Hypericum tetrapterum</i>	Square-stalked St John's-wort					Rare
<i>Iris pseudacorus</i>	Yellow Iris				Occasional	
<i>Lycopus europaeus</i>	Gypsywort					Rare
<i>Matricaria chamomilla</i>	Scented Mayweed					Rare
<i>Matricaria discoidea</i>	Pineapple-weed					Rare
<i>Mentha aquatica</i>	Water Mint				Occasional	
<i>Parietaria judaica</i>	Pellitory of the wall					Rare
<i>Persicaria lapathifolia</i>	Pale Persicaria					Rare
<i>Petasites fragrans</i>	Winter Heliotrope					Rare
<i>Plantago major</i>	Greater Plantain					Rare
<i>Polygonum arenastrum</i>	Knotgrass					Rare
<i>Potentilla reptans</i>	Creeping Cinquefoil					Rare
<i>Prunella vulgaris</i>	Selfheal					Rare

<i>Ranunculus pencillatus subsp pseudofluitans</i>	Brook Water Crowfoot		Occasional
<i>Ranunculus repens</i>	Creeping buttercup		Rare
<i>Rorippa-nasturtium-aquaticum</i>	Water-cress		Occasional
<i>Rubus fruticosus agg</i>	Bramble		Occasional
<i>Rumex crispus</i>	Curled Dock		Occasional
<i>Rumex obtusifolius</i>	Broad-leaved Dock		Occasional
<i>Senecio jacobea</i>	Ragwort		Rare
<i>Scrophularia auriculata</i>	Water Figwort		Occasional
<i>Solanum dulcamara</i>	Bittersweet		Rare
<i>Sparganium erectum</i>	Branched Bur-reed	Frequent	
<i>Soleirolia soleirolii</i>	Mind-your-own-business		Rare
<i>Taraxacum officinale agg</i>	Dandelion		Rare
<i>Urtica dioica</i>	Stinging Nettle		Occasional
<i>Veronica anagalis aquatica</i>	Blue Water Speedwell		Had not come out yet
<b>GRASSES</b>			
<i>Agrostis stolonifera</i>	Creeping Bent		Rare
<i>Arrhenatherum elatius</i>	False Oat-grass		Occasional
<i>Dactylis glomerata</i>	Cock's-foot		Occasional
<i>Holcus lanatus</i>	Yorkshire Fog	Frequent	Rare
<i>Lolium perenne</i>	Perennial Rye-grass		Rare
<i>Phalaris arundinacea</i>	Canary Reed		Rare
<i>Poa annua</i>	Annual Meadow-grass		Rare
<i>Poa trivialis</i>	Rough Meadow-grass		Rare
<b>SEDGES</b>			
<i>Carex acutiformis</i>	Lesser pond sedge		Occasional
<i>Carex pendula</i>	Pendulous Sedge		Rare
<i>Carex remota</i>	Remote Sedge		Rare
<b>FERNS</b>			
<i>Asplenium scolopendrium</i>	Hart's-tongue fern		Rare
<b>MOSESSES</b>			
<i>Hypnum cupressiforme</i>	Cypress-leaved Plait-moss		Rare
<i>Kindbergia praelonga</i>	Common Feather-moss		Rare
<b>LIVERWORTS</b>			
<i>Conocephalum conicum</i>	Great scented liverwort		Occasional
<i>Metzgeria furcata</i>	Forked Veilwort		Rare
<b>LICHENS</b>			
<i>Evernia prunastri</i>			Occasional
<i>Flavoparmelia caperata</i>			Occasional
<i>Parmelia saxatilis</i>	Crottle	Frequent	
<i>Physcia adscendens</i>			Occasional
<i>Physcia tenella</i>			Occasional
<i>Xanthoria parietina</i>		Frequent	
<b>BIRDS</b>			
	<b>Numbers</b>		
<i>Cettia cetti</i>	Cettis warbler	1	
<i>Columba oenas</i>	Stock Dove	2	

<i>Columba palumbus</i>	Wood Pigeon	2
<i>Erithacus rubecula</i>	Robin	1
<i>Hirundo rustica</i>	Barn Swallow	1
<i>Pica pica</i>	Magpie	1
<i>Sylvia atricapilla</i>	Blackcap	1
<b>BUTTERFLIES</b>		
<i>Anthocharis cardamines</i>	Orange tip	1
<i>Pieris rapae</i>	Small White	1
<i>Polygonum c album</i>	Comma	1
<i>Polymmatius icarus</i>	Common Blue	1
<b>DRAGONFLIES</b>		
<i>Calopteryx splendens</i>	Banded Demoiselle	1
<i>Pyrrhosoma nymphala</i>	Large red damselfly	1
<b>BEEES</b>		
<i>Apis mellifera</i>	Honey Bee	3
<b>FISH</b>		
<i>Salmo trutta</i>	Brown trout	1

## 1.4

### Ems River Corridor Survey Site 4

#### Parish

#### Westbourne

#### Scale

#### Cover-abundance

Dominant = D

(91 - 100%)

Abundant = A

(51 - 90%)

Frequent = F

(21 -50%)

Occasional = O

(6 -20%)

Rare = R

(0 -5%)

New species found in 2021

Indicated in **green**

Chalk Indicator species

Indicated in **turquoise**

Recorded last year but not in Spring survey

Indicated in **red**

#### Latin Name

#### Common Name

#### Dominant

#### Abundant

#### Frequent

#### Occasional

#### Rare

#### TREES

*Acer campestre*

Field Maple

Occasional

*Acer pseudoplatanus*

Sycamore

Rare

*Aesculus hippocastanum*

Horse Chestnut

Rare

*Alnus glutinosa*

Alder

Rare

*Cornus sanguinea*

Dogwood

Occasional

*Corylus avellana*

Hazel

Occasional

*Crataegus monogyna*

Hawthorn

Occasional

*Euonymus europaea*

Spindle

Rare

*Fraxinus excelsior*

Ash

Occasional

*Ilex aquifolium*

**Holly**

**Rare**

*Populus alba*

White Poplar

Rare

*Prunus cerasifera var*

Purple-leaved Plum

Rare

*Prunus spinosa*

Blackthorn

Occasional

<i>Quercus ilex</i>	Holm Oak		Removed
<i>Quercus robur</i>	Pedunculate Oak		Occasional
<i>Salix alba</i>	White Willow		Rare
<i>Salix cinerea</i>	Sallow	Frequent	
<i>Salix fragilis</i>	Crack Willow		Occasional
<i>Sambucus nigra</i>	Elder		Occasional
<i>Sorbus aucuparia</i>	Rowan		Rare
<i>Ulmus procera</i>	Common Elm		Rare
<b>SHRUBS</b>			
<i>Daphne laureola</i>	Spurge Laurel		Rare
<i>Hedera helix</i>	Ivy		Occasional
<i>Ligustrum vulgare</i>	Wild Privet		Rare
<i>Lonicera periclymenum</i>	Honeysuckle		Rare
<i>Rosa canina</i>	Dog Rose		Rare
<i>Ulex europaeus</i>	Common Gorse		Rare
<i>Viscum album</i>	Mistletoe		Rare
<b>FLOWERS</b>			
<i>Achillea millefolium</i>	Yarrow		Occasional
<i>Aegopodium podagraria</i>	Ground Elder		Rare
<i>Aethusa cynapium</i>	Fool's Parsley		Rare
<i>Agrimonia eupatoria</i>	Agrimony		Occasional
<i>Alisma plantago-aquatica</i>	Water Plantain		Rare
<i>Alliaria petiolata</i>	Garlic Mustard		Occasional
<i>Angelica sylvestris</i>	Angelica		Occasional
<i>Anthriscus sylvestris</i>	Cow Parsley		Occasional
<i>Apium nodiflorum</i>	Fool's Water-cress		Occasional
<i>Arctium minor</i>	Lesser Burdock		Rare
<i>Arum maculatum</i>	Lords and ladies		Rare
<i>Aster sp</i>	Michaelmas daisy sp		Rare
<i>Barbarea vulgaris</i>	Winter-cress		Rare
<i>Bellis perennis</i>	Daisy		Occasional
<i>Callitriche stagnalis</i>	Water Starwort		Rare
<i>Caltha palustris</i>	Marsh Marigold		Rare
<i>Calystegia sepium</i>	Hedge Bindweed		Occasional
<i>Capsella bursa-pastoris</i>	Shepherds Purse		Occasional
<i>Centaurea nigra</i>	Knapweed		Occasional
<i>Cerastium fontanum</i>	Common Mouse-ear		Occasional
<i>Cerastium glomeratum</i>	Sticky mouse-ear		Occasional
<i>Chaerophyllum temulum</i>	Rough Chervil		Occasional
<i>Chenopodium album</i>	Fathen		Rare
<i>Cirsium arvense</i>	Creeping Thistle	Frequent	
<i>Cirsium vulgare</i>	Spear Thistle		Occasional
<i>Convolvulus arvensis</i>	Field bindweed		Occasional
<i>Crepis capillaris</i>	Smooth Hawk's-beard		Rare
<i>Epilobium adenocaulon</i>	American Willowherb		Occasional
<i>Epilobium hirsutum</i>	Great Willowherb		Occasional



<i>Erigeron canadensis</i>	Canadian Fleabane		Rare
<i>Erodium cicutarium</i>	Common stork's-bill	Occasional	
<i>Erythranthe guttata</i>	Monkey Flower		Rare
<i>Eupatorium cannabinum</i>	Hemp Agrimomy	Occasional	
<i>Ficaria verna</i>	Lesser celandine	Occasional	
<i>Filipendula ulmaria</i>	Meadow Sweet		Rare
<i>Galium aparine</i>	Cleavers	Frequent	
<i>Galium molle</i>	Hedge Bedstraw		Rare
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	Occasional	
<i>Geranium molle</i>	Dove's-foot Cranes-bill	Occasional	
<i>Geranium robertianum</i>	Herb Robert		Rare
<i>Geum urbanum</i>	Wood Avens	Occasional	
<i>Glechoma hederacea</i>	Ground Ivy	Occasional	
<i>Helminthotheca echioides</i>	Bristly Ox-tongue	Occasional	
<i>Heracleum sphondylium</i>	Hogweed	Occasional	
<i>Humulus lupulus</i>	Hop		Rare
<i>Hypericum tetrapterum</i>	Square-stalked St John's-wort	Occasional	
<i>Hypochaeris radicata</i>	Common Cat's-ear	Occasional	
<i>Iris pseudacorus</i>	Yellow Iris	Occasional	
<i>Lamium album</i>	White Dead-nettle		Rare
<i>Lamium purpureum</i>	Red Dead-nettle		Rare
<i>Lapsana communis</i>	Nipplewort	Occasional	
<i>Lathrus sylvestris</i>	Meadow vetchling	Occasional	
<i>Lemna minor</i>	Common Duckweed	Occasional	
<i>Lepidium didymum</i>	Lesser Swine-cress	Occasional	
<i>Lotus corniculatus</i>	Bird's-foot Trefoil		Rare
<i>Lycopus europaeus</i>	Gypsywort	Occasional	
<i>Lythrum salicaria</i>	Purple Loosestrife		Rare
<i>Malva sylvestris</i>	Common Mallow		Rare
<i>Matricaria chamomilla</i>	Scented Mayweed		Rare
<i>Matricaria discoidea</i>	Pineapple-weed	Occasional	
<i>Medicago lupulina</i>	Black Medick		Rare
<i>Mentha aquatica</i>	Water Mint	Occasional	
<i>Myotis scorpioides</i>	Water Forget-me-not		Rare
<i>Nymphaea sp</i>	Ornamental Water-lily		Rare
<i>Oenanthe crocata</i>	Hemlock Water-dropwort	Occasional	
<i>Oenanthe pimpinelloides</i>	Corky-fruited Water-dropwort	Occasional	
<i>Persicaria maculosa</i>	Redshanks	Occasional	
<i>Plantago lanceolata</i>	Ribwort Plantain	Occasional	
<i>Plantago major</i>	Greater Plantain		Rare
<i>Polygonum aviculare</i>	Common Knotgrass	Occasional	
<i>Potentilla anserina</i>	Silverweed	Occasional	
<i>Potentilla reptans</i>	Creeping Cinquefoil	Occasional	
<i>Prunella vulgaris</i>	Selfheal	Occasional	
<i>Pulicaria dysenterica</i>	Common Fleabane	Occasional	
<i>Ranunculus acris</i>	Meadow Buttercup	Occasional	

<i>Ranunculus pencillatus subsp pseudofluitans</i>	Brook Water Crowfoot	Occasional	
<i>Ranunculus repens</i>	Creeping Buttercup	Occasional	
<i>Rorippa-nasturtium-aquaticum</i>	Water-cress	Occasional	
<i>Rubus fruticosus agg</i>	Bramble	Frequent	
<i>Rumex acetosa</i>	Common Sorrel		Rare
<i>Rumex crispus</i>	Curled Dock	Occasional	
<i>Rumex obtusifolius</i>	Broad-leaved Dock		Rare
<i>Rumex sanguineus</i>	Wood Dock	Occasional	
<i>Sanuisorda minor</i>	Salad burnet	Occasional	
<i>Scrophularia auriculata</i>	Water Figwort	Occasional	
<i>Senecio jacobea</i>	Common Ragwort	Occasional	
<i>Senecio squalidis</i>	Oxford Ragwort	Occasional	
<i>Senecio vulgaris</i>	Groundsel		Rare
<i>Silaum silaus</i>	Pepper Saxifrage	Occasional	
<i>Sisymbrium officinale</i>	Hedge Mustard	Occasional	
<i>Solanum dulcamara</i>	Bittersweet	Occasional	
<i>Solanum nigrum</i>	Black Nightshade	Occasional	
<i>Sonchus asper</i>	Prickly Sow-thistle	Occasional	
<i>Sonchus oleraceus</i>	Smooth Sow-thistle	Occasional	
<i>Sparganium erectum</i>	Branched Bur-reed	Occasional	
<i>Stachys palustris</i>	Marsh Woundwort		Rare
<i>Stellaria media</i>	Common Chickweed	Occasional	
<i>Symphyotrichum sp</i>	Michaelmas Daisy		Rare
<i>Symphytum officinale</i>	Common Comfrey		Rare
<i>Tamus communis</i>	Black Bryony	Occasional	
<i>Taraxacum officinale agg</i>	Dandelion	Occasional	
<i>Torilis japonica</i>	Upright Hedge Parsley		Rare
<i>Trifolium dubium</i>	Lesser trefoil	Occasional	
<i>Trifolium pratense</i>	Red Clover	Occasional	
<i>Trifolium repens</i>	White Clover	Occasional	
<i>Urtica dioica</i>	Stinging Nettle	Frequent	
<i>Veronica anagallis- aquatica</i>	Blue Water Speedwell	Occasional	
<i>Veronica arvensis</i>	Wall speedwell	Occasional	
<i>Veronica becca bunga</i>	Brooklime	Occasional	
<i>Veronica montana</i>	Wood Speedwell		Rare
<i>Veronica serpyllifolia</i>	Thyme-leaved Speedwell	Occasional	
<i>Vicia cracca</i>	Tufted Vetch		Rare
<i>Vicia sativa</i>	Common Vetch	Occasional	
<b>GRASSES</b>			
<i>Agrostis capillaris</i>	Common Bent	Occasional	
<i>Alopecurus geniculatus</i>	Marsh Foxtail	Occasional	
<i>Arrhenatherum elatius</i>	False Oat-grass	Occasional	
<i>Brachipodium sylvaticum</i>	False Brome	Occasional	
<i>Bromus hordeaceus</i>	Soft Brome		Rare
<i>Cynosurus cristatus</i>	Crested Dog's-tail-grass	Occasional	
<i>Dactylis glomerata</i>	Cock's-foot	Occasional	

<i>Deschampsia cespitosa</i>	Tufted Hair-grass		Rare
<i>Festuca rubra</i>	Red Fescue		Rare
<i>Glyceria fluitans</i>	Floating Sweet-grass		Rare
<i>Holcus lanatus</i>	Yorkshire Fog	Frequent	
<i>Holcus mollis</i>	Soft creeping-grass		Occasional
<i>Hordeum brachyantherum</i>	Meadow Barley		Rare
<i>Hordeum murinum</i>	Wall Barley		Rare
<i>Lolium perenne</i>	Perennial Rye-grass	Frequent	
<i>Melica uniflora</i>	Wood Melick		Rare
<i>Phalloris arundinacea</i>	Canary Reed		Occasional
<i>Phleum pratense</i>	Timothy		Occasional
<i>Poa annua</i>	Annual Meadow-grass		Rare
<i>Poa pratensis</i>	Smooth Meadow-grass		Rare
<i>Poa trivialis</i>	Rough Meadow-grass		Occasional
<b>SEDGES</b>			
<i>Carex divulsa</i>	Grey Sedge		Rare
<i>Carex hirta</i>	Hairy Sedge		Occasional
<i>Carex remota</i>	Remote Sedge		Rare
<b>HORSETAILS</b>			
<i>Equisetum arvensis</i>	Field Horsetail		Occasional
<i>Equisetum fluviatile</i>	Water Horsetail		Rare
<b>RUSHES</b>			
<i>Juncus articulatus</i>	Jointed Rush		Occasional
<i>Juncus bufonius</i>	Toad Rush		Occasional
<i>Juncus effusus</i>	Soft Rush		Rare
<i>Juncus inflexus</i>	Hard Rush		Occasional
<b>MOSSES</b>			
<i>Brachythecium rutabulum</i>	Rough-stalked Feather-moss		Occasional
<i>Bryum capillare</i>	Capillary Thread-moss		Rare
<i>Cryphaea heteromalla</i>	Lateral Cryphea		Occasional
<i>Dicranoweisia cirrata</i>	Common Pincushion		Rare
<i>Fissidens taxifolius</i>	Common Pocket-moss		Occasional
<i>Grimmia pulvinata</i>	Grey cushion-moss		Rare
<i>Hypnum cupressiforme</i>	Cypress-leaved Plait-moss		Occasional
<i>Kindbergia praelonga</i>	Common Feather-moss		Occasional
<i>Orthotrichum affine</i>	Wood Bristle-moss		Occasional
<i>Oxyrrhynchium hians</i>	Swartz's Feather-moss		Rare
<b>LIVERWORTS</b>			
<i>Conocephalum conicum</i>	Great Scented Liverwort		Rare
<i>Frullania dilatata</i>	Dilated Scalewort		Occasional
<i>Metzgeria furcata</i>	Forked Veilwort		Occasional
<i>Pellia endiviifolia</i>	Endive Pellia		Rare
<b>LICHENS</b>			
<i>Evernia prunastri</i>			Occasional
<i>Flavoparmelia caperata</i>			Occasional
<i>Lecanora chlorotera</i>			Rare

<i>Parmelia saxatilis</i>	Crottle		Occasional
<i>Parmelia sulcata</i>			Occasional
<i>Physcia adscendens</i>			Occasional
<i>Physcia tenella</i>			Occasional
<i>Ramalina farinacea</i>			Occasional
<i>Ramalina fastigiata</i>			Rare
<i>Xanthoria parietina</i>		Frequent	
<b>ALGAE</b>			
<i>Hildenbrandtia rivularis</i>			Rare
<b>FUNGI</b>			
<i>Daedaleopsis confragosa</i>	Blushing Bracket		Rare
<i>Daelinia concentrica</i>	King Alfred's Cake		Rare
<b>BIRDS</b>			
	<b>Numbers</b>		
<i>Aegithalos caudatus</i>	Long-tailed Tit	2	
<i>Anas platyrhynchos</i>	Mallard	1	
<i>Ardea cinerea</i>	Grey Heron	1	
<i>Buteo buteo</i>	Buzzard	1	
<i>Carduelis carduelis</i>	Goldfinch	3	
<i>Chroicocephalus ridibundus</i>	Black-headed Gull	2	
<i>Columba oenas</i>	Stock Dove	2	
<i>Columba palumbus</i>	Wood Pigeon	30	
<i>Corvus corone</i>	Carrion Crow	4	
<i>Corvus monedula</i>	Jackdaw	6	
<i>Cyanistes caeruleus</i>	Blue Tit	2	
<i>Dendroopos major</i>	Great Spotted Woodpecker	1	
<i>Erithacus rubecula</i>	Robin	3	
<i>Fringilla coelebs</i>	Chaffinch	4	
<i>Hirundo rustica</i>	Barn Swallow	6	
<i>Larus argentatus</i>	Herring Gull	2	
<i>Muscicapa striata</i>	Spotted Fly-catcher	2	
<i>Parus major</i>	Great Tit	2	
<i>Passer domesticus</i>	House Sparrow	20	
<i>Phoenicurus phoenicurus</i>	Redstart	1	
<i>Phylloscopus trochilus</i>	Willow Warbler	1	
<i>Pica pica</i>	Magpie	2	
<i>Picus viridis</i>	Green Woodpecker	1	
<i>Prunella modularis</i>	Duncock	2	
<i>Sturnus vulgaris</i>	Starling	15	
<i>Sylvia communis</i>	Whitethroat	2	
<i>Troglodytes troglodytes</i>	Wren	2	
<i>Turdus merula</i>	Blackbird	4	
<b>MAMMALS</b>			
<i>Sciurus carolinensis</i>	Grey Squirrel	1	
<b>BUTTERFLIES</b>			
<i>Anthocharis cardamines</i>	Orange tip	1	
<i>Celastrina argiolus</i>	Holly Blue	1	

<i>Pieris rapae</i>	Small White	6
<b>MOTHS</b>		
<i>Campaea margaritata</i>	Light Emerald Moth	1
<b>DRAGONFLIES</b>		
<i>Aeshna cyanea</i>	Southern Hawker	2
<i>Anax imperator</i>	Emperor Dragonfly	1
<i>Ischnura elegans</i>	Blue-tailed Damselfly	4
<i>Sympetrum sanguineum</i>	Ruddy Darter	2
<b>BEEES</b>		
<i>Apis mellifera</i>	Honey Bee	20
<b>WASPS</b>		
<i>Vespula vulgaris</i>	Common Wasp	4
<b>HOVERFLIES</b>		
<i>Volucella zonaria</i>	Hornet Hoverfly	1

## 1.5

### Ems River Corridor Survey Site 5

#### Parish

Westbourne

#### Scale

#### Cover-abundance

Dominant = D

(91 - 100%)

Abundant = A

(51 - 90%)

Frequent = F

(21 - 50%)

Occasional = O

(6 - 20%)

Rare = R

(0 - 5%)

New species found in 2021

Indicated in **green**

Chalk Indicator species

Indicated in **turquoise**

Recorded last year but not in Spring survey

Indicated in **red**

#### Latin Name

#### Common Name

#### Dominant

#### Abundant

#### Frequent

#### Occasional

#### Rare

#### TREES

*Acer pseudoplatanus*

Sycamore

Rare

*Alnus glutinosa*

Alder

Rare

*Crataegus monogyna*

Hawthorn

Occasional

*Salix cinerea*

Sallow

Occasional

*Salix fragilis*

Crack Willow

Rare

*Sambucus nigra*

Elder

Occasional

#### SHRUBS

*Hedera helix*

Ivy

Occasional

*Lonicera periclymenum*

Honeysuckle

Rare

*Rosa canina*

Dog Rose

Rare

#### FLOWERS

*Achillea millefolium*

Yarrow

Occasional

*Angelica sylvestris*

Angelica

Rare

*Anthriscus sylvestris*

Cow parsley

Rare

*Apium nodiflorum*

Fool's Water-cress

Occasional

*Arum maculatum*

Lords and ladies

Rare

<i>Calystegia sepium</i>	Hedge Bindweed	Occasional	
<i>Arum maculatum</i>	Lords and ladies		Rare
<i>Cerastium fontanum</i>	Common mouse-ear		Rare
<i>Cirsium arvense</i>	Creeping Thistle	Frequent	
<i>Cirsium vulgare</i>	Spear Thistle	Occasional	
<i>Crepis capillaris</i>	Smooth Hawk's-beard		Rare
<i>Dipsacus fullonum</i>	Teasel		Rare
<i>Epilobium adenocaulon</i>	American Willowherb		Rare
<i>Epilobium hirsutum</i>	Great Willowherb	Occasional	
<i>Ficaria verna</i>	Lesser celandine	Occasional	
<i>Filipendula ulmaria</i>	Meadow Sweet	Occasional	
<i>Galium aparine</i>	Cleavers	Occasional	
<i>Glechoma hederacea</i>	Ground Ivy	Occasional	
<i>Iris pseudacorus</i>	Yellow Iris	Occasional	
<i>Lactuca virosa</i>	Prickly lettuce		Rare
<i>Lamium album</i>	White Dead-nettle		Rare
<i>Lycopus europaeus</i>	Gypsywort	Occasional	
<i>Mentha aquatica</i>	Water Mint	Occasional	
<i>Oenanthe crocata</i>	Hemlock Water-dropwort	Occasional	
<i>Pulicaria dysenterica</i>	Common Fleabane	Occasional	
<i>Ranunculus acris</i>	Meadow Buttercup	Occasional	
<i>Ranunculus bulbosus</i>	Bulbous Buttercup	Occasional	
<i>Ranunculus repens</i>	Creeping buttercup	Occasional	
<i>Rorippa-nasturtium-aquaticum</i>	Water-cress	Occasional	
<i>Rubus fruticosus agg</i>	Bramble	Frequent	
<i>Rumex acetosella</i>	Common sorrel		Rare
<i>Rumex crispus</i>	Curled Dock	Occasional	
<i>Solanum dulcamara</i>	Bittersweet	Occasional	
<i>Sonchus oleraceus</i>	Smooth Sow-thistle		Rare
<i>Symphytum officinale</i>	Common Comfrey		Rare
<i>Tamus communis</i>	Black Bryony	Occasional	
<i>Taraxacum officinale agg</i>	Dandelion		Rare
<i>Urtica dioica</i>	Stinging Nettle	Frequent	
<i>Veronica becca bunga</i>	Brooklime		Rare
<b>GRASSES</b>			
<i>Agrostis capillaris</i>	Common Bent	Occasional	
<i>Arrhenatherum elatius</i>	False Oat-grass		Rare
<i>Dactylis glomerata</i>	Cock's-foot	Occasional	
<i>Glyceria fluitans</i>	Floating Sweet-grass		Rare
<i>Holcus lanatus</i>	Yorkshire Fog	Occasional	
<i>Phalaris arundinacea</i>	Canary Reed	Occasional	
<b>SEDGES</b>			
<i>Carex remota</i>	Remote Sedge		Rare
<b>HORSETAILS</b>			
<i>Equisetum arvense</i>	Field Horsetail		Rare
<b>RUSHES</b>			

<i>Juncus effusus</i>	Soft Rush		Rare
<b>MOSSES</b>			
<i>Brachythecium rutabulum</i>	Rough-stalked Feather-moss		Rare
<i>Bryum capillare</i>	Capillary Thread-moss		Rare
<i>Dicranoweisia cirrata</i>	Common Pincushion		Rare
<i>Fissidens taxifolius</i>	Common Pocket-moss		Rare
<i>Hypnum cupressiforme</i>	Cypress-leaved Plait-moss	Occasional	
<i>Kindbergia praelonga</i>	Common Feather-moss	Occasional	
<i>Orthotrichum affine</i>	Wood Bristle-moss		Rare
<i>Oxyrrhynchium hians</i>	Swartz's Feather-moss		Rare
<b>LIVERWORTS</b>			
<i>Metzgeria furcata</i>	Forked Veilwort	Occasional	
<b>LICHENS</b>			
<i>Evernia prunastri</i>			Rare
<i>Flavoparmelia caperata</i>			Rare
<i>Physcia adscendens</i>		Occasional	
<i>Physcia tenella</i>		Occasional	
<i>Xanthoria parietina</i>		Frequent	
<b>FUNGI</b>			
<i>Daedaleopsis confragosa</i>	Blushing Bracket		Rare
<b>BIRDS</b>			
	<b>Numbers</b>		
<i>Carduelis carduelis</i>	Goldfinch	4	
<i>Columba palumbus</i>	Wood Pigeon	4	
<i>Corvus corone</i>	Carrion Crow	2	
<i>Corvus monedula</i>	Jackdaw	3	
<i>Cyanistes caeruleus</i>	Blue Tit	2	
<i>Erithacus rubecula</i>	Robin	1	
<i>Hirundo rustica</i>	Barn Swallow	4	
<i>Parus major</i>	Great Tit	2	
<i>Passer domesticus</i>	House Sparrow	6	
<i>Pica pica</i>	Magpie	2	
<i>Sturnus vulgaris</i>	Starling	2	
<i>Turdus merula</i>	Blackbird	2	
<b>BUTTERFLIES</b>			
<i>Anthocharis cardocharis</i>	Orange tip	1	
<i>Lycaena phlaeas</i>	Small Copper	1	
<i>Pieris rapae</i>	Small White	2	
<b>BEEES</b>			
<i>Apis mellifera</i>	Honey Bee	2	
<b>WASPS</b>			
<i>Vespula vulgaris</i>	Common Wasp	1	