
Nocturnal Bat Survey Report

Highfields, Whempstead Road

for



15 September 2022

Client**Planning authority**

East Herts Council

Time limit of reliance

Please note that the reported surveys were conducted on the date(s) stated in the report and that it represents site conditions at the time of the visit. The findings and recommended mitigation are based on these conditions. If site conditions change materially after the site survey, the original report cannot be relied upon and will need to be updated. Ecological reports and surveys can typically be relied on for 18 to 24 months from the date of survey.

Surveys supporting European Protected Species Mitigation Licence applications must be within the current or most recent survey season for bats (May to September), or within two survey seasons for great crested newts (March to June).


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Signed disclosure	
<p>The information, data, advice and opinions provided in this report which I have provided is true and has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. I confirm that the opinions expressed are my true and professional bona fide opinions.</p> <p>Etienne Swarts, ACIEEM</p>	
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SUMMARY

Greenlight Environmental Consultancy Ltd. has been commissioned to carry out protected species surveys for bats, relating to a proposed development at Highfields, Whempstead Road, Watton-at-Stone, Benington, East Hertfordshire, SG12 0PN (grid reference: TL 31875 21057).

This report provides the results of the bat survey and any potential effects of the proposed development on such species.

The ecology report is required in support of a planning application for the demolition of the existing structures on site, and construction of one residential dwelling.

The survey and assessment were completed by independent qualified and experienced ecologists with Natural England survey licences for the relevant protected species, and in accordance with the latest survey guidelines.

The findings of the assessment are that there are no significant ecological constraints that would prevent the proposed works.

If the following mitigation and enhancements are incorporated into the proposed layout, there will be a net gain for biodiversity, as is encouraged by the National Planning Policy Framework.

Protected habitats/species	Status	Potential effect	Recommended mitigation and enhancements
Bats	Activity surveys confirmed the building is used as: Soprano pipistrelle non-breeding day roost. High value commuting and foraging habitat on site.	Destruction of bat roost present in building. Potential light disturbance of commuting and foraging habitats on site.	<u>Mitigation</u> EPS mitigation licence required from Natural England prior to any works being conducted. The licence will include the following: Workers to be given a toolbox talk prior to works commencing. On the first day works are proposed to commence, the building will be inspected for bats. Soft roof/wall strip undertaken by hand and under watching brief. Installation of one integrated bat box situated on the new building. Installation of one standalone bat box situated on mature trees or building. Roofs will be lined with traditional type 1F bitumen felt. Any lighting schemes will comply with Bat Conservation Trust and CIE 150:2003 guidance.

1. METHODOLOGY

- 1.1. A physical inspection of all the buildings on site were conducted and reported in the Preliminary Roost Assessment issued by Applied Ecology Ltd. (2020).
- 1.2. A total of two bat activity surveys (comprised of a dusk emergence and a dawn return-to-roost survey) were conducted within the optimal surveying season for bats and in suitable weather conditions (Table 1).
- 1.3. Three independent, qualified and experienced surveyors were used per survey: Ebonie Lambo-Hills (Natural England bat license level 1, 2022-10580-CL17-BAT), Kate Mann, Charlie Swarts and Amelia Lambo-Hills. The surveyors were stationed as shown in Figures 1-2.
- 1.4. The dusk surveys started approximately 15 minutes before sunset and finished approximately 1.5 hours after sunset. The dawn survey started approximately 1.5 hours before sunrise and ended approximately 15 minutes after sunrise.
- 1.5. Bat calls were recorded using an Anabat SD2, Anabat Walkabout and EchoMeter Touch. Call data was analysed using AnalookW and Analook Insight software.
- 1.6. Two Canon XA40 infrared cameras were used as survey aids to assist in detecting emerging bats. Each camera was equipped with two infrared floodlights and an infrared torch.
- 1.7. All survey methods were carried out in accordance with the most up to date good practice guidance (Collins, 2016; Bat Conservation Trust, 2022).

2. SITE CONTEXT

Location

- 2.1. The site is situated within the hamlet of Whempstead, with the village of Dame End located approximately 1.2km east and the A602 located approximately 1.8km south. The closest town is Stevenage located approximately 5.8km northwest of the site.
- 2.2. The site is enclosed by grassland to the north and east, residential dwelling to the south, and arable fields and Whempstead road to the west. The wider surroundings are comprised of a mixture of residential dwellings, blocks of woodland and arable fields lined with mature trees and hedgerows.

3. DESCRIPTION OF THE DEVELOPMENT

- 3.1. The proposals are for the demolition of the existing structures on site, and construction of one residential dwelling.

4. FIELD STUDY

Activity surveys

- 4.1. The survey conditions, start/end times and sunset/sunrise times are indicated in Table 1 below:

Visit	Date	Conditons	Start	End	Start of survey	End of survey	Sunset/sunrise
1	24/08/22	Temp Cloud cover Wind Precipitation	25°C 50% 5 mph None	22°C 50% 4 mph None	19:50	21:35	20:05
2	15/09/22	Temp Cloud cover Wind Precipitation	11°C 70% 4 mph None	12°C 30% 4 mph None	04:55	06:47	06:32

Table 1, bat activity surveys information.

First activity survey (dusk) – 24th August 2022

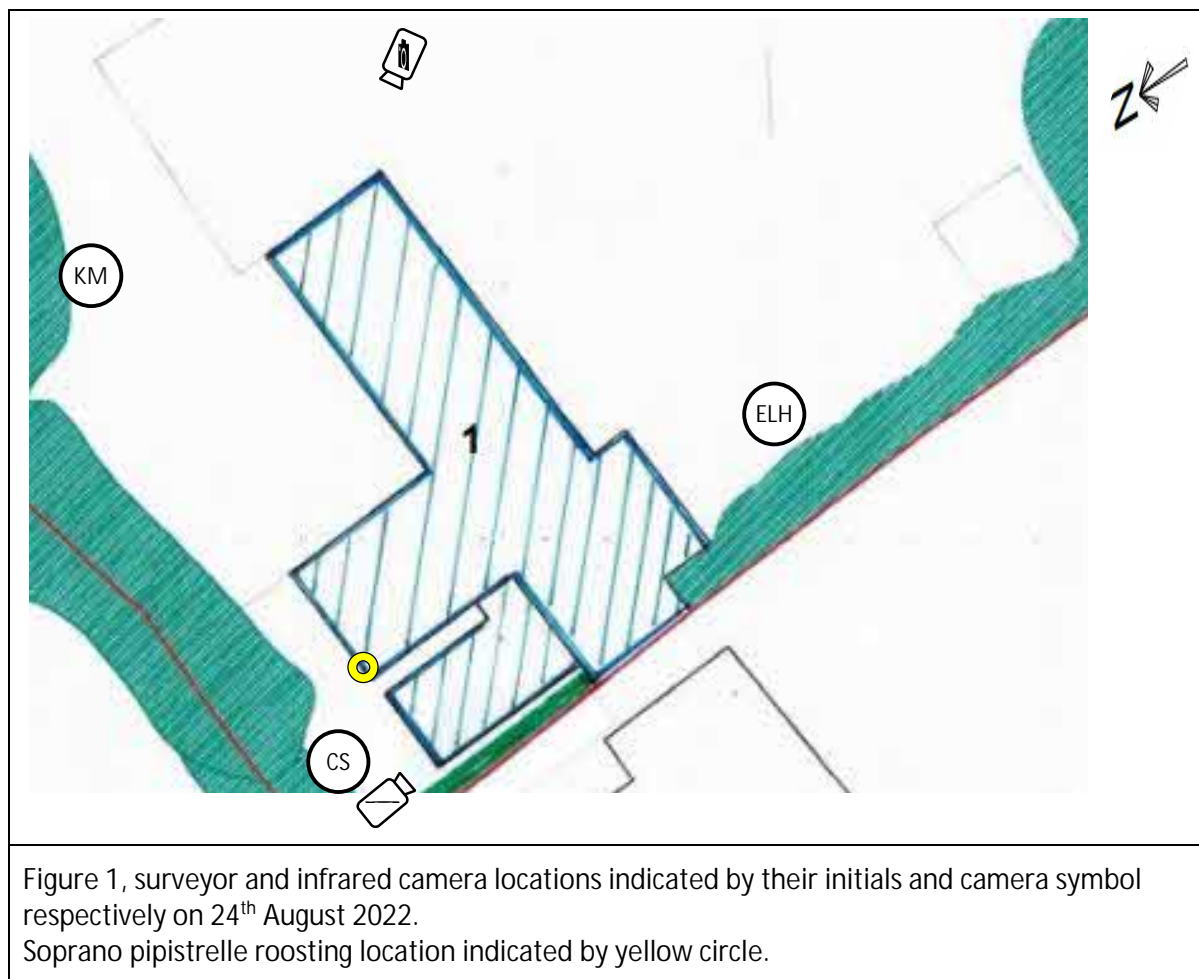
- 4.2. A single soprano pipistrelles *Pipistrellus pygmaeus* was observed emerging from underneath a roof tile located on the southwest aspect of the building at 21:31 (Figure 1, Photo 1).
- 4.3. No further bats were observed emerging from the building during the survey.
- 4.4. A high level of foraging and commuting activity was recorded and observed by common pipistrelles *Pipistrellus pipistrellus*, soprano pipistrelles and noctules *Nyctalus noctula*.



Photo 1, soprano pipistrelle roosting location on the southwest aspect of the building, highlighted in yellow. 24th August 2022.



Photo 2, soprano pipistrelle roosting location on the southwest aspect of the building, highlighted in yellow. 24th August 2022.



Second activity survey (dawn) – 15th September 2022

- 4.5. The first bats recorded were two brown long-eared *Plecotus auratus* at 5:20, which were foraging between the building and adjacent dwelling south.
- 4.6. No further bats were observed entering the building during the survey.
- 4.7. A low level of foraging and commuting activity was recorded and observed by common pipistrelles and brown long-eared *Plecotus auritus*.

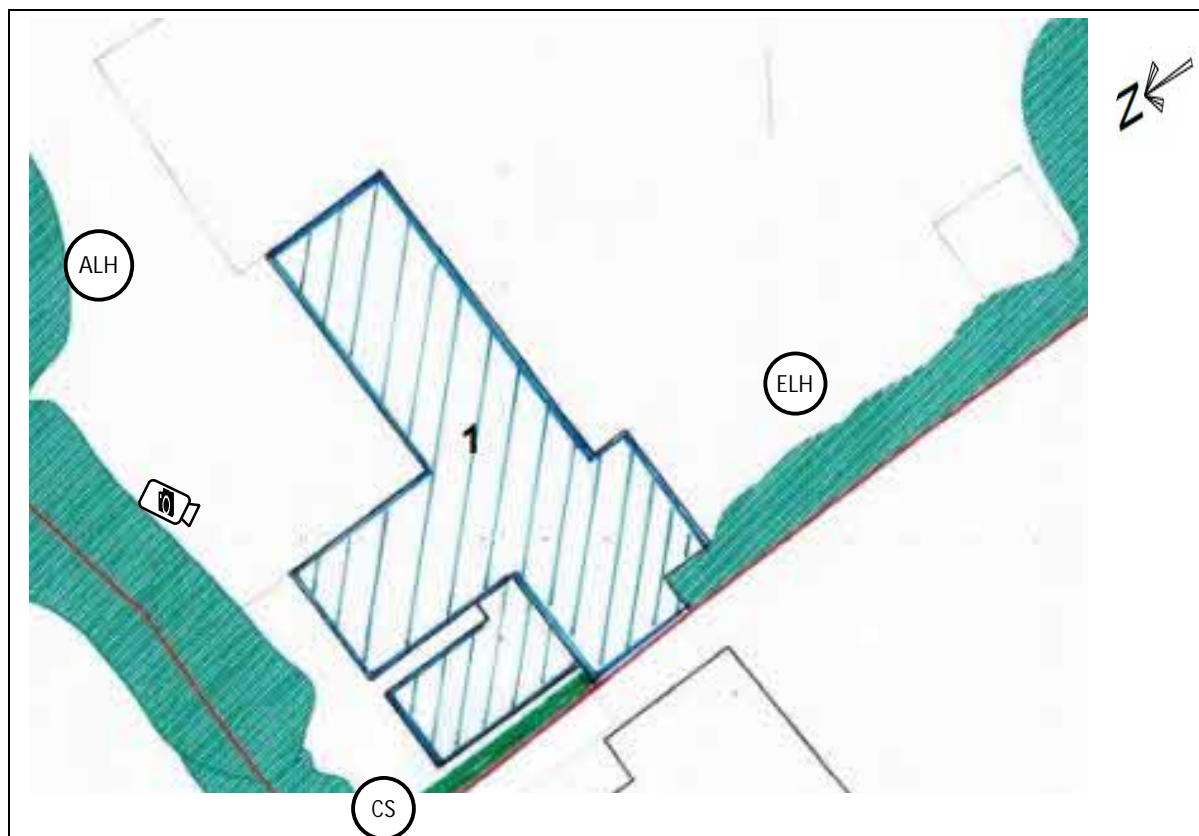


Figure 2, surveyor and infrared camera locations indicated by their initials and camera symbol respectively on 15th September 2022.

5. DISCUSSION AND CONCLUSIONS

- 5.1. The surveys confirmed the building is used as a non-breeding day roost by soprano pipistrelle.
- 5.2. The proposed works involve the demolition of the existing building, resulting in the modification/destruction of roosting locations.
- 5.3. Soprano pipistrelles are common and widespread (BCT, 2014) and the modification/destruction of a non-breeding day roost would have a potentially low impact respectively on the local bat population (Mitchell-Jones, 2004).
- 5.4. In order to be able to proceed with the proposed works and to ensure that no detrimental impacts will result on the species, a European Protected Species mitigation licence from Natural England will be required for the proposed works and the following mitigation measures will be implemented:
 - i. Workers to be given a toolbox talk prior to works commencing detailing bat signs, potential roosts/access points, what to do if bats are found and to avoid activities that might cause high vibrations or noise.
 - ii. On the first day works are proposed to commence, the building will be inspected for bats using a torch and endoscope. If any bats are found and accessible, they will be captured by gloved hand, given a health check and removed to safety.
 - iii. A soft roof strip and partial demolition of the walls around the bat roosts will be undertaken with special care and under watching brief of a licenced bat ecologist. If any bats are found, work will cease immediately, and any bats removed to safety.
 - iv. Installation of one integrated bat box situated on the new building (Schwegler 1FR Bat Tube – Appendix B).
 - v. Installation of one standalone bat box situated on mature trees or building nearby (Schwegler 1FF Bat Box with built-in wooden rear panel – Appendix B).
 - vi. Roofs will be lined with traditional type 1F bitumen felt, not non-bitumen coated roofing membranes (NBCRM) which includes both breathable and non-breathable membranes; these are proven to entangle bats through regular contact, which also compromises the integrity of the membrane.
 - vii. Any lighting schemes will follow guidance from the Bat Conservation Trust and CIE 150:2003. Warm-white (long wavelength) lights with UV filters will be fitted as close to the ground as possible. Lighting units will be angled below 70° and equipped with movement sensors, baffles, hoods, louvres and horizontal cut off units at 90°.
 - viii. A soft landscaping scheme to include the planting of new native species-rich (≥ 5 species), hedgerows and trees around the site (see Appendix C for suggested species).

- 5.5. After the effects of the above mitigation, we consider that the favourable conservation status of the local bat population will be maintained and that an EPS mitigation licence should be granted by Natural England.

6. BIBLIOGRAPHY

British Standard BS 42020:2013 Biodiversity - Code of Practice for planning and development.

British Standards Institution (2012). BS 5837:2012, Trees in relation to design, demolition and construction – Recommendations.

Collins, J. (Ed.) (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn.). The Bat Conservation Trust, London.

International Commission on Illumination (2003). CIE 150:2003, Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installations.

Mitchell-Jones (2004). Bat mitigation guidelines. English Nature: Peterborough

Stone, E.L. (2013). Bats and lighting: Overview of current evidence and mitigation. University of Bristol.

Appendix A

Legislation

European Protected Species

National Planning Policy - National Planning Policy Framework (NPPF)

Section 15 of the National Planning Policy Framework 2021 (NPPF): Conserving and enhancing the natural environment states that 'planning policies and decisions should contribute to and enhance the natural and local environment by ... minimising impacts on and providing net gains for biodiversity.'

Office of The Deputy Prime Minister ("ODPM") Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their impact within the planning system.

Paragraph 98 of Circular 06/2005 states that 'the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat'.

Implications of legislation and policies

Without this ecological assessment, the potential developer would be unable to demonstrate due diligence in his responsibilities. Furthermore, the local planning authority would not have been provided with sufficient information for a planning decision to be made. This could result in non-determination or refusal of the application.

With legal responsibilities and planning implications, it is essential that any ecological assessment of a potential development site, including the area of this report, must determine the possible presence or absence of any protected species as part of any planning development consideration.

Where mitigation or compensation measures are required to ensure that no significant impacts will result on biodiversity from the development, the proposed measures may be secured through planning conditions or by EPS Mitigation Licences from Natural England.

Bats

All bat species in Britain are protected under the Wildlife and Countryside Act 1981 through inclusion on Schedule 5. They are also protected under the Conservation (Natural Habitats &c.) Regulations 1994 (which were issued under the European Communities Act 1972), through inclusion on Schedule 2. On 30th November 2017, these Regulations, together with subsequent amendments, were consolidated into the Conservation of Habitats and Species Regulations 2017.

European protected animal species ("EPS") and their breeding sites or resting places are protected under Regulation 42. It is an offence for anyone to deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs. It is an offence to damage or destroy a breeding or resting place of such an animal. It is also an offence to have in one's possession or control, any live or dead European protected species.

The threshold above which a person will commit the offence of deliberately disturbing a wild animal of a European protected species has been raised. A person will commit an offence only if he deliberately disturbs

such animals in a way as to be likely significantly to affect (a) the ability of any significant groups of animals of that species to survive, breed, or rear or nurture their young, or (b) the local distribution of abundance of that species. The existing offences under the Wildlife and Countryside Act (1981) as amended which cover obstruction of places used for shelter or protection (for example, a bat roost), disturbance and sale still apply to European protected species.

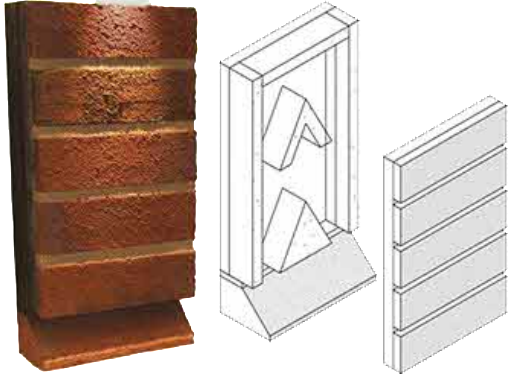
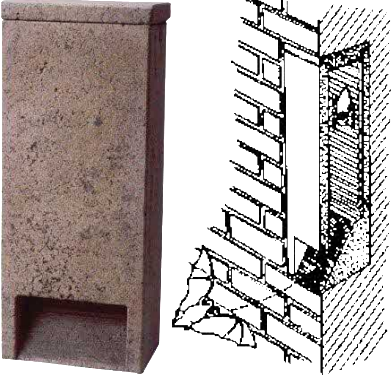


This legislation provides defences so that necessary operations may be carried out in places used by bats, provided the appropriate Statutory Nature Conservation Organisation (in England this is Natural England) is notified and allowed a reasonable time to advise on whether the proposed operation should be carried out and, if so, the approach to be used. The UK is a signatory to the Agreement on the Conservation of Bats in Europe, set up under the Bonn Convention. The Fundamental Obligations of Article III of this Agreement require the protection of all bats and their habitats, including the identification and protection from damage or disturbance of important feeding areas for bats.

Natural England Licensing - EPS Mitigation Licensing

Licences can be obtained from the Wildlife Management and Licensing Service at Natural England to allow certain activities that would otherwise constitute an offence, for the purposes of development (e.g. destruction of a bat roost, loss of great crested newt aquatic and terrestrial habitat, etc).

Appendix B Examples of bat boxes

(images sourced from www.nhbs.com and www.habibat.co.uk)

<p>Integrated bat box Habibat Bat Box</p>  <p>The image shows the Habibat Bat Box in three views: a photograph of the finished reddish-brown wooden box with horizontal grooves, a 3D perspective line drawing showing the internal structure with a triangular entrance hole, and a side view showing the grooved exterior.</p>	<p>Integrated bat box 1FR Schwegler Bat Tube</p>  <p>The image shows the 1FR Schwegler Bat Tube in two views: a photograph of the plain, light-colored rectangular tube with a small entrance hole at the bottom, and a cross-sectional line drawing showing the internal structure with a series of horizontal slats and a central entrance hole.</p>
<p>Standalone bat box 2F Schwegler Bat Box (General purpose)</p>  <p>The image shows a photograph of a 2F Schwegler Bat Box mounted on a tree trunk. It is a dark, cylindrical box with a conical top and a small, horizontal entrance hole near the bottom.</p>	<p>Standalone bat box 1FF Schwegler Bat Box with built-in wooden rear panel</p>  <p>The image shows a photograph of a 1FF Schwegler Bat Box mounted on a tree trunk. It is a dark, rectangular box with a built-in wooden rear panel, which is visible as a lighter-colored section at the bottom.</p>

Recommendations for installing bat boxes:
(Sourced from Bat Conservation Trust www.bct.org)

Ideally, several boxes should be put up facing in different directions to provide a range of conditions.

Locate boxes:

Where bats are known to feed close to hedges and treelines (some bats use a treeline or hedgerow for navigation, putting boxes near these features may help the bats find the box).

On trees: boxes should be placed on the trunk of a mature tree, where there is a clear flight line/accessible entrance.

On buildings: boxes should be placed as close to the eaves as possible.

As high as possible (ideally, at least 3 to 4m above the ground, where safe installation is possible).

In sunny places, sheltered from strong winds (usually between south-west and south-east).

Make sure the boxes are secured.

Boxes can be installed on trees using adjustable ties to avoid damaging the trees. Otherwise, timber screw bolts or nails can be used. Aluminium alloy nails are less likely to damage saws and chipping machinery.

Bats need time to find and explore new homes, and it may be several months or even years before boxes have residents. Once bats find a place they want to live they can return over and over again. Droppings on the landing area, urine stains around the lower parts of the box and chattering noises from inside on warm afternoons and evenings are signs of occupation.

Appendix C

Native species suitable for planting and sowing

Plants should be obtained from specialist nurseries and preferably be of local genetic stock.

Key: (f) – fruit and berry species; (e) – evergreen species; (se) semi-evergreen species; (d) – deciduous species

Trees	
Alder (d)	<i>Alnus glutinosa</i>
Apples (f; d)	<i>Malus</i> spp. (local varieties)
Ash (d)	<i>Fraxinus excelsior</i>
Beech (d)	<i>Fagus sylvatica</i>
Bird cherry (f; d)	<i>Prunus padus</i>
Elder (f; d)	<i>Sambucus nigra</i>
Elm (d)	<i>Ulmus procera</i>
Field maple (d)	<i>Acer campestre</i>
Pedunculate oak (d)	<i>Quercus robur</i>
Rowan (f; d)	<i>Sorbus aucuparia</i>
Pears (f; d)	<i>Pyrus</i> spp.
Silver birch (d)	<i>Betula pendula</i>
Small-leaved lime (d)	<i>Tilia cordata</i>
White willow (d)	<i>Salix alba</i>
Wild cherry (f; d)	<i>Prunus avium</i>
Walnut (d)	<i>Juglans regia</i>

Shrubs	
Blackthorn (f; d)	<i>Prunus spinosa</i>
Buckthorn (f; d)	<i>Rhamnus catharticus</i>
Crab apple (f; d)	<i>Malus sylvestris</i>
Dog rose (f; d)	<i>Rosa canina</i>
Dogwood (f; d)	<i>Cornus sanguinea</i>
Field maple (d)	<i>Acer campestre</i>
Guelder-rose (f; d)	<i>Viburnum opulus</i>
Hawthorn (f; d)	<i>Crataegus monogyna</i>
Hazel (d)	<i>Corylus avellana</i>
Holly (e)	<i>Ilex aquifolium</i>
Honeysuckle (f; d)	<i>Lonicera periclymenum</i>
Spindle (f; d)	<i>Euonymus europaeus</i>
Wild privet (f; se)	<i>Ligustrum vulgare</i>
Yew (f; e)	<i>Taxus baccata</i>

Flowering plants	
Bird's-foot trefoil	<i>Lotus corniculatus</i>
Black knapweed	<i>Centaurea nigra</i>
Common cat's-ear	<i>Hypochoeris radicata</i>
Common sorrel	<i>Rumex acetosa</i>
Common vetch	<i>Vicia sativa</i>
Cowslip	<i>Primula veris</i>
Field scabious	<i>Knautia arvensis</i>
Foxglove	<i>Digitalis purpurea</i>
Lady's bedstraw	<i>Galium verum</i>
Meadow buttercup	<i>Ranunculus acris</i>
Meadow vetchling	<i>Lathyrus pratensis</i>
Oxeye daisy	<i>Leucanthemum vulgare</i>
Primrose	<i>Primula vulgaris</i>
Red clover	<i>Trifolium pratense</i>
Selfheal	<i>Prunella vulgaris</i>
Sweet violet	<i>Viola odorata</i>
Wild daffodil	<i>Narcissus pseudonarcissus</i>
Yarrow	<i>Achillea millefolium</i>

Grasses	
Common bent	<i>Agrostis capillaris</i>
Crested dog's-tail	<i>Cynosurus cristatus</i>
Meadow fescue	<i>Festuca pratensis</i>
Red fescue	<i>Festuca rubra</i>
Rough meadow-grass	<i>Poa trivialis</i>
Small timothy	<i>Phleum bertolonii</i>
Smooth meadow-grass	<i>Poa pratensis</i>
Sweet vernal-grass	<i>Anthoxanthum odoratum</i>
Yellow oat-grass	<i>Trisetum flavescens</i>