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# Nocturnal Bat Survey Report

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**Hollowdene Farm, Needham**

**for**

**Mr Rhys Thomas**

**9 August 2022**

**Client**

Mr Rhys Thomas


**Planning authority**

South Norfolk District 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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<b><i>Signed disclosure</i></b>	
<i>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.</i>	
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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 Hollowdene Farm, 149 High Road, Needham, Harleston, IP20 9LG (grid reference: TM 22291 80605).
- 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 conversion and extension of an existing structure, and demolition of a garage block.
- 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 <b>likely absence</b> of bats from the outbuilding (building one). <b>Moderate</b> value commuting and foraging habitat on site.	Potential light disturbance of commuting and foraging habitats on site.	<u>Mitigation</u> Soft roof/wall strip of building with an awareness that bats may be present. If a bat is found, works must cease and a suitably licensed ecologist sought. Any lighting schemes to comply with Bat Conservation Trust and CIE 150:2003 guidance. Soft landscaping scheme to include the planting of new native species-rich hedgerows and trees around the site. <u>Enhancement</u> Installation of one integrated bat box on the new building on site.

## **1. METHODOLOGY**

- 1.1. A physical inspection of all the buildings on site were conducted and reported in the Preliminary Ecological Appraisal Report issued by Greenlight Environmental Consultancy Ltd. (2022).
- 1.2. One bat activity survey (comprised of a dusk emergence) was 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: Nathan Duszynski (Natural England bat licence level 2 2017-31943-CLS-CLS), Mark Jermy and Emma Laurie. The surveyors were stationed as shown in Figure 1.
- 1.4. The dusk survey started approximately 15 minutes before sunset and finished approximately 1.5 hours after sunset.
- 1.5. Bat calls were recorded using an Anabat SD2, Anabat Walkabout and EchoMeter 3+ bat recorders. Call data was analysed using AnalookW and Analook Insight software.
- 1.6. One Canon XA40 infrared camera was used as a survey aid to assist in detecting emerging bats. The camera was equipped with an infrared floodlight and an infrared torch. Although this device is an infrared camera, where applicable Thermal Imaging: Bat Survey Guidelines (2019) were followed.
- 1.7. All survey methods were carried out in accordance with the most up to date good practice guidance (Collins, 2016).

## **2. SITE CONTEXT**

### **Location**

- 2.1. The site is situated on the southern edge of the village of Needham, with the A143 located approximately 0.5km to the north. The closest town is Hareston, which is located approximately 2.8km northeast of the site.
- 2.2. The site is enclosed by a road and arable fields to the northwest, residential dwellings to the east and coastal and floodplain grazing marsh to the south. The wider surroundings are comprised predominantly of arable fields lined with mature trees and hedgerows.

### 3. DESCRIPTION OF THE DEVELOPMENT

- 3.1. The proposals are for the conversion and extension of an existing structure, and the demolition of a garage block.

### 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	29/07/22	Temp Cloud cover Wind Precipitation	17°C 0% 7 mph None	16°C 0% 6 mph None	20:37	22:22	20:52

**Table 1**, bat activity surveys information.

#### *First activity survey (dusk) – 29<sup>th</sup> July 2022*

- 4.2. The first bat recorded was a noctule *Nyctalus noctula* commuting across the site at 21:01. This is consistent with typical emergence times of this species, indicating a potential roost in the near vicinity.
- 4.3. Although no bats were roosting within the building, a brown long-eared *Plecotus auritus* was observed entering the open doorway on the south aspect of the building at 21:50, before emerging from the same location shortly afterwards. The building is not considered to be a night roost or feeding perch, as the brown long-eared was always in flight.
- 4.4. No bats were observed roosting within the building during the survey.
- 4.5. A moderate level of foraging and commuting activity was recorded and observed by common pipistrelles *Pipistrellus pipistrellus*, soprano pipistrelles *Pipistrellus pygmaeus*, noctules, Leisler's *Nyctalus leisleri* and brown long-eared.



Photo 1, infrared camera screenshot. 29<sup>th</sup> July 2022.

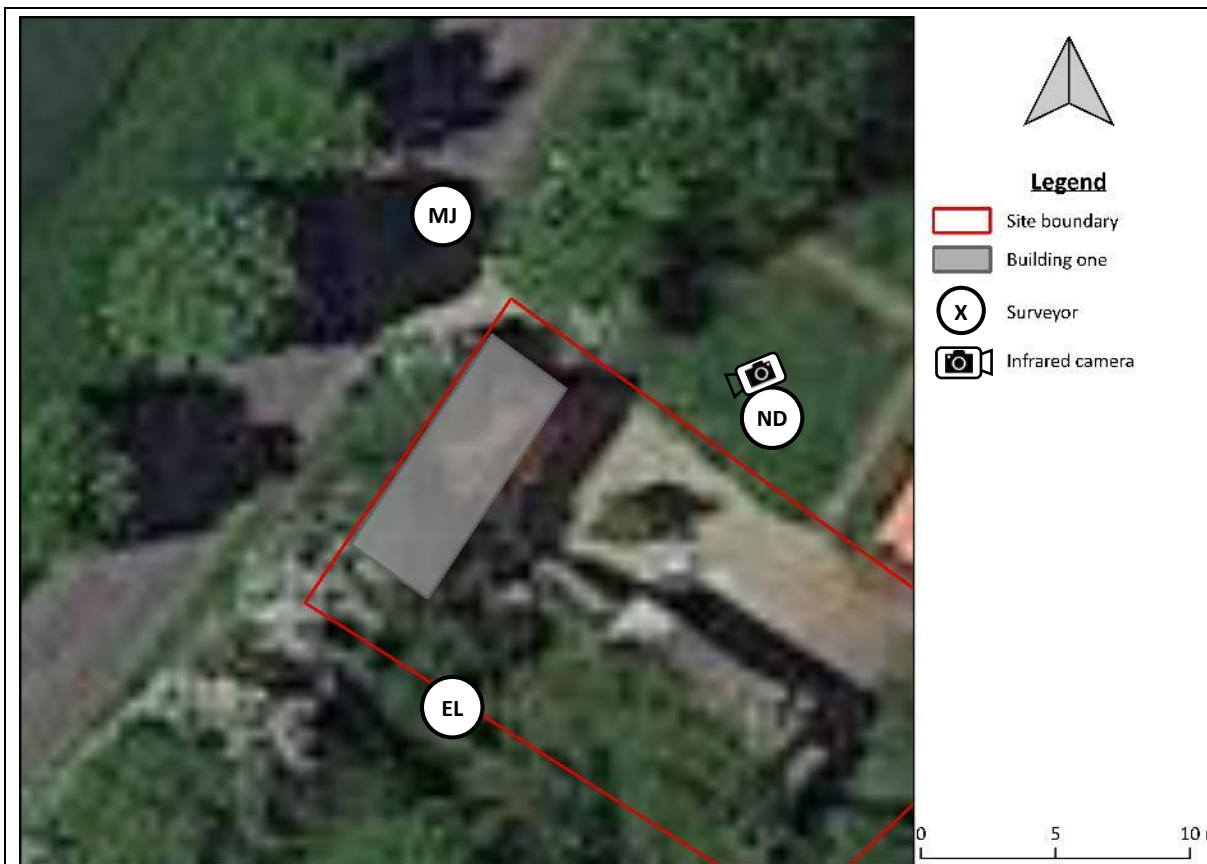


Figure 1, surveyor and infrared camera locations on 29<sup>th</sup> July 2022.  
Image © QGIS, date accessed 06/08/22

## 5. DISCUSSION AND CONCLUSIONS

- 5.1. The activity survey, comprised of a dusk emergence survey, was conducted within the optimal surveying season for bats.
- 5.2. The surveys confirmed the likely absence of bats roosting within the structure, with no bats observed roosting within the building during the survey.
- 5.3. Proposed works involve the conversion, extension and demolition of the buildings on site into a residential dwelling. Although we do not predict any direct impacts on bats, as a precautionary measure, the following mitigation measures will be implemented:
  - i. A soft roof strip and demolition of the walls will be undertaken by hand and with an awareness that bats may be present. If any bats are found, works will cease immediately, and a licenced bat worker contacted to advice on how to proceed.
  - ii. Any lighting schemes will follow guidance from Bat Conservation Trust and CIE 150:2003. Warm-white (long wavelength) lights with UV filters will be fitted at 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°.
  - iii. A soft landscaping scheme to include the planting of new native species-rich ( $\geq 5$  species), hedgerows and trees around the site (see Appendix C for suggested species).
- 5.4. As enhancements for bats, we recommend the installation of:
  - i. One integrated bat box to be installed on the converted building (Schwegler 1FR Bat Tube – Appendix B).
- 5.5. After the above precautionary measures and enhancements, we consider that the favourable conservation status of the local bat population will be maintained and that a European Protected Species (“EPS”) mitigation licence will not be required 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 (3<sup>rd</sup> 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 30<sup>th</sup> 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.

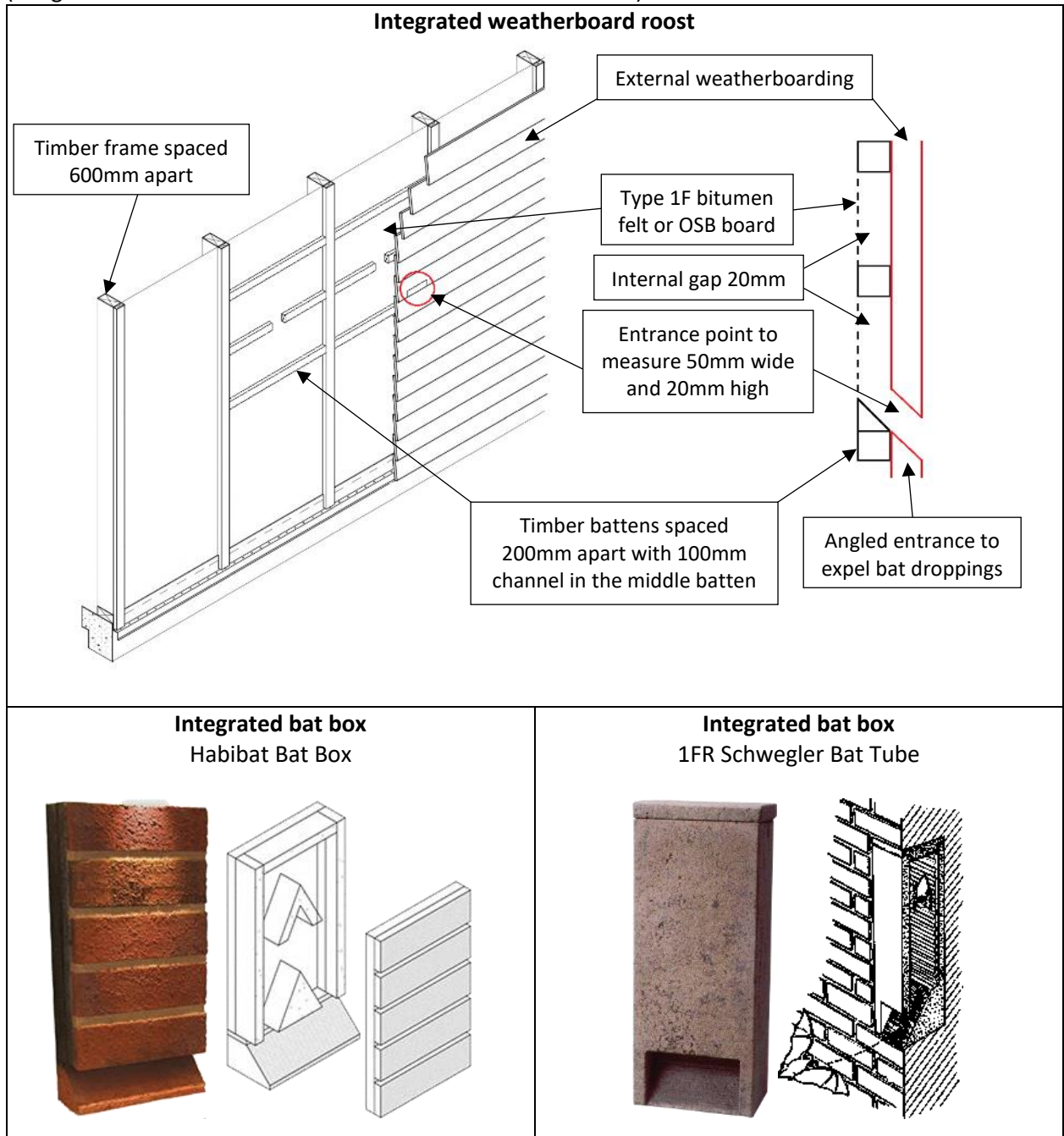
This legislation provides defences so that necessary operations may be carried out in places used by bats, provided the appropriate Statutory Nature Conservation Organisation (in England this is Natural England) is notified and allowed a reasonable time to advise on whether the proposed operation should 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.

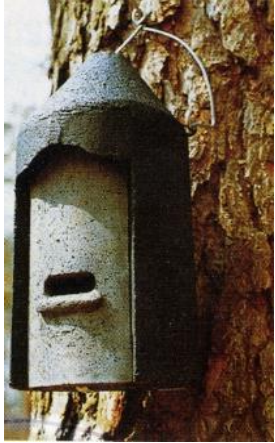

**Natural England Licensing - EPS Mitigation Licensing**

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](http://www.nhbs.com) and [www.habibat.co.uk](http://www.habibat.co.uk))



<p style="text-align: center;"><b>Standalone bat box</b> 2F Schwegler Bat Box (General purpose)</p> 	<p style="text-align: center;"><b>Standalone bat box</b> 1FF Schwegler Bat Box with built-in wooden rear panel</p> 
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**Recommendations for installing bat boxes:**

(Sourced from Bat Conservation Trust [www.bct.org](http://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 spp.</i> (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 spp.</i>
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>