



Wild Service

Muddle Barn Farm, Sibford Gower

Bat Emergence Surveys

On behalf of Mr & Mrs Besterman

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1 Introduction

1.1 Scope

Wild Service was commissioned by Yiangou architects on behalf of Mr & Mrs Besterman to carry out an extended Phase 1 survey and building inspection for bats in April 2014 on their property at Muddle Barn Farm, Sibford Gower, in relation to potential impacts from development proposals on protected species and habitats. The 2014 assessment identified that the detached chalet-style house on Site had features with potential to be used by roosting bats. Internal inspection identified a small number of old droppings located near a vent in the attic of the house, indicating past use of the space by bats. Two further emergence surveys were carried out 11th and 25th June 2014 and no bats emerged from the building. Small amounts of commuting and foraging activity by common pipistrelle bats was recorded in the garden around the building.

Wild Service was commissioned to update survey and three further bat surveys were undertaken in June and July 2016 to gather up-to-date evidence of bat use of the Site.

The aim of this report is to present the findings of the further bat emergence and re-entry surveys, evaluate the potential ecological constraints associated with the potential development and propose appropriate mitigation measures to ensure adverse impacts upon bats are minimised. This report should be read in conjunction with the *Muddle Barn Farm, Sibford Gower, OX15 5RY – Extended Phase 1 Survey and Assessment & Bat Survey* (Wild Service, July 2014)

1.2 Site description

The Site comprises a three bedroom, detached, chalet-style house located in a garden with mown grassland, scattered trees and hedgerows to the north and east. The house was lived-in at the time of the surveys. The wider ownership site of Muddle Barn Farm is horse grazed pasture and equestrian yard set in a rural landscape of arable and pasture fields and scattered dwellings.

1.3 Legislation

This report has been prepared in accordance with relevant legislation and policy. Further detail is provided in **Appendix 1**, however the following primary documents are of relevance:

- The Wildlife and Countryside Act 1981 (as amended);
- The Countryside and Rights of Way Act (CRoW Act), 2000 (as amended)
- The Natural Environment and Rural Communities Act (NERC Act), 2006
- The Conservation of Habitats and Species Regulations 2010 (as amended)

No part of this report should be considered as legal advice and when dealing with individual cases, the client is advised to consult the full texts of the relevant legislation and obtain further legal advice.

2 Methods

The bat survey methodology followed was that set out by the Bat Conservation Trust. The criteria used to categorise the bat roost potential of buildings and trees are summarised in **Table 2.1** (based on Collins, 2016). All surveys were led by a Natural England Class Level 2 bat licence holder.

Sufficient surveyors were used to ensure that all suitable elevations of the buildings were observed for emerging or re-entering bats. General bat activity in the area was also recorded.

Two dusk emergence and one dawn survey visit were undertaken during the peak of the bat active season - on 28th June, 6th July and 19th July 2016. All three surveys were conducted in suitable weather conditions and in accordance with guidelines (Collins, 2016). During the surveys, experienced ecologists were positioned around the building to watch for emerging bats and to record any activity highlighting potential key corridors and foraging areas of the site. Attention was focussed on external features identified as having bat roosting potential. Surveyors were equipped with full spectrum or frequency division bat detectors and recording devices, with sonograms subsequently analysed for species identification. **Table 2.2** shows the survey dates and weather during surveys.

Table 2.1: Bat Roost Potential

Category	Description
Known or confirmed bat roost	Bats or evidence of bats recorded, both of recent and/or historic activity. Works affecting a roost are licensable. Further survey effort (e.g. dusk emergence/dawn re-entry survey(s) in accordance with best practice) is required to determine the bat species present, nature of roost and level of use before mitigation can be determined. Seasonal constraints may apply.
1 High to moderate BRP Buildings/trees with features capable of supporting a bat roost.	Features include holes, cracks or crevices that extend or appear to extend back to cavities suitable for bats. In trees, examples include rot holes, woodpecker holes, splits and flaking or raised bark which could provide roosting opportunities. Any ivy cover is sufficiently well-established and matted so as to create potential crevices beneath. In buildings, features such as gaps beneath ridge and roof tiles, gaps beneath fascia and barge boards and access points into internal loft voids or cellars are all features of roosting potential for bats. Further survey effort is required to determine whether or not bats are present and if so, the bat species present, nature of roost and level of use. Appropriate mitigation and potentially licensing requirements may then be determined. Seasonal constraints may apply.
2 Low BRP	Buildings: The building may exhibit features that would have some limited bat roosting opportunities. A further survey for emerging or re-entering bats is required to help confirm the building's low suitability, or to identify any roosting bats present. Trees: From the ground, the tree appears to have features (e.g. holes, cavities or cracks) that may extend back into a cavity. However, owing to the characteristics of the feature, they are deemed to be sub-optimal for roosting bats. Alternatively, if no features are visible but owing to the size and age and structure, hidden features, sub-optimal for roosting bats, may occur that only an elevated inspection may reveal.

	For trees, no further survey is required. Works may proceed using reasonable precautions (e.g. controlled working methods, usually the soft-felling of a tree under supervision of a bat worker. Seasonal constraints may apply).
3 Negligible	An inspected building or tree that is considered not to have potential for roosting bats. No further survey or mitigation required.

Table 2.2: Further bat surveys weather conditions

Date	Weather conditions						Time Start	Time End	Sunset / Sunrise
	Temp Start	Temp End	Rain Start	Rain End	Wind (Beaufort Scale)	Cloud (Octas)			
08/06/2016	16°C	11.2°C	No	No	1	4	20:50	22:55	21:20
06/07/2016	17°C	16°C	No	No	1	8	21:15	22:48	21:26
19/07/2016	17.7	17.1	No	No	1	1	03:45	05.:09	05:09

3 Results

The emergence/re-entry and general site activity results summarised below. The fully tabulated field survey data can be provided on request. The surveyors were positioned on the north-west and south-east corners of the house.

Emergence survey 8th June 2016, sunset 21.20

No roosting behaviour recorded. Common pipistrelle and noctule bats active on Site.

21:56-22.14: The first bat activity was recorded 36 minutes after sunset, with two common pipistrelle bats commuting towards the house from the east where they remained foraging over the garden and in circuits around the house. One additional common pipistrelle entered the Site and foraged for a short time.

22.28-22.35: Two common pipistrelle bats foraged in the garden and then left Site commuting eastwards in the direction that the first two bats of the survey entered Site. A single noctule pass was recorded.

Emergence survey 6th July 2016, sunset 21.26

A likely emergence from the north-east gable by a bat. Common pipistrelle bats active on Site.

21:47: A likely emergence by a bat was recorded 21 minutes after sunset. The bat appeared near the ridge at the gable end of the building and commuted away from the building with no echolocation being heard or recorded. The emergence timing and flight behaviour indicated the likelihood of the bat being a pipistrelle species.

22.56-22.25: Continuous activity from individual common pipistrelle bats, recorded foraging along the northern hedgerow and northern part of the garden. One common pipistrelle bat entering Site from the south-west, foraging around the house and then leaving Site to the south.

22:26 – 22.48: Up to two common pipistrelle bats foraging simultaneously within the garden and around the house at eaves-height, with bats commuting off-Site south east and east.

Dawn survey 19th July 2016, sunrise 05.09

No roosting behaviour recorded. Activity from common pipistrelle and a *Myotis* species (possibly Natterer's).

03:52-04:04: 1-2 *Myotis* bats foraging in garden to north-east of house. Analysis of sonograms suggested that the calls could be Natterer's but with some uncertainty. Recordings often mixed with common pipistrelle calls. *Myotis* bats generally foraging at low level around trees in garden. Last observed heading north-east towards adjacent farmhouse and outbuildings.

03:49 – 04:31: 1-3 common pipistrelles foraging and chasing mainly to north-east of building in garden. Social calls frequently recorded. Last observed heading north-east as above. One or two observations of bats flying up to both the north-east gable and the south-west gable, but no roosting behaviour or landing on wall observed.

03:59-04:28: 1-2 unidentified bats were observed circling the building at eaves height but no echolocation recorded. Flight behaviour was typical of pipistrelle bats (clearly small bats with rapid wing beat) and not typical of brown long-eared bats. A few faint echolocation calls recorded towards dawn were confirmed as from soprano pipistrelle, and it is considered likely these were the same 'non-echolocating' bats observed foraging a little earlier in the survey.

4 Discussion and Recommendations

Small numbers of old droppings were recorded during inspection in 2014. Further bat surveys in 2016 identified that the building on Site is being used as an occasional summer day roost by a bat, likely to be a male *Pipistrelle*.

Small numbers of four different common bat species were recorded commuting and foraging in the garden and around the house in 2016: common pipistrelle, soprano pipistrelle, *Myotis species* (likely to be natterer's) and noctule. The levels of general activity on Site is in line with that recorded during emergence surveys in 2014.

Bat roosts (defined as a 'place of rest or shelter') are protected from destruction, modification or obstruction under the Conservation of Habitats and Species Regulations 2010 and the Wildlife and Countryside Act 1981 (as amended). Bats are protected from deliberate or reckless killing or injury. Bats are also protected from disturbance whilst in a roost or significant disturbance to their ability to survive or reproduce.

A European Protected Species Licence for bats is usually required to allow lawful destruction of a bat roost. However Natural England formally launched a Low Impact Bat Class Licence scheme in 2015, permitting works that have low impacts on certain bat species and certain roost types, but which still need to be licenced in order to meet legal requirements. In this case, it is appropriate for the Site to be registered under Natural England's Low Impact Bat Class Licence scheme by a Registered Consultant, who will provide reports to Natural England. An application to register the Site can only be submitted once the necessary planning consents are in place.

A further site visit is required to the house at Muddle Barn Farm, with the aim of gathering bat droppings for DNA analysis to confirm species identification. Species identification information is required to meet the test of the Site registration under the LIBCL scheme.

A mitigation strategy is required, proportional to the importance of the roost, to ensure that no bats are harmed or injured during works. The mitigation strategy will be approved by the Registered Consultant and is likely to include the following recommendations:

- 1) Works with the potential to impact on roosting bats should not proceed until the registration of the Site has been approved by Natural England and compensatory provision is in place prior to commencement of works, in the form of placement of appropriate bat boxes in mature trees in the vicinity of the Site.
- 2) Where possible, works should be timed to take place between October and April inclusive, to avoid the summer activity period when roosting bats are likely to be present.

- 3) A tool box talk will be provided to contractors immediately prior to works, and a sensitive approach to demolishing the roof will be undertaken, with the supervision of the Registered Consultant;
- 4) Paragraph 125 of the National Planning Policy Framework states that “By encouraging good design, planning policies and decisions should limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.” Best practice should be followed with regard to any security lighting design for the proposed redevelopment of the Site, as outlined in Bats and Lighting in the UK (BCT, 2009), with the core principle of only lighting areas which need to be lit and minimising light spill as much as possible. This includes:
 - Avoid using mercury or metal halide lamps, using directional LED lighting where possible;
 - Use ‘warm white’ in preference to ‘white’ light LED bulbs.
 - Direct lighting to where needed and avoid spillage and design the luminaire appropriately, including the use of hoods, cowls, shields etc to avoid spillage onto the boundary habitat.
 - Only light areas which need to be lit, and use the minimal level of lighting required to comply with guidance such as Institute of Lighting Engineers Guidance Notes for the Reduction of Obtrusive Light (2005);
 - Use movement sensors or timers if possible;
 - Consider use of bollard lighting as an alternative to poles, especially close to woodland habitats;
 - Do not use a lamp greater than 150W for security lighting.
- 5) Compensatory roost provision will be provided by incorporation of bat roosting opportunities in the new buildings, such as installation of bat tubes or boxes (e.g. Schwegler 1FR or similar):

In addition, wildlife friendly planting can be considered for soft landscaping works - incorporating species of known value to wildlife. Appendix D includes a list of species compiled by the Royal Horticultural Society that are known to be of value to pollinating insects and other wildlife species, such as foraging bats.

Appendices

APPENDIX 1 – Policy and Legal Considerations

Statutory nature conservation sites and protected species are a 'material consideration' in the UK planning process (DCLG, March 2012). Where planning permission is not required, for example on proposals for external repair to structures, consideration of protected species remains necessary given their protection under UK law.

The **Conservation of Habitats and Species Regulations 2010** transpose the requirements of European Directives such as the Habitats Directive and Birds Directive¹ into UK law, enabling the designation of protected sites and species at a European level.

The **Wildlife and Countryside Act 1981** (as amended) forms the key piece of UK legislation relating to the protection of habitats and species. The **Countryside and Rights of Way Act 2000** provides additional support to the 1981 Act, for example, increasing the protection of certain reptile species. Specific protection for badger is provided by the **Protection of Badger Act 1992**. The **Wild Mammals (Protection) Act 1996** sets out the welfare framework with respect to wild mammals prohibiting a range of activities which may cause unnecessary suffering.

The Government has a duty to ensure that parties take reasonable practicable steps to further the conservation of habitats and species of Principal Importance for Conservation in England listed under Section 41 of the **Natural Environment and Rural Communities Bill 2006**². In addition, the 2006 Act places a Biodiversity Duty on public authorities who 'must, in exercising [their] functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity' (Section 40 (1)). Criteria for selection of priority habitats and species include, for example, international threat (such that species may be protected in their strong holds) and marked national decline.

The **National Planning Policy Framework**³(1) states (in section 11) that the planning system should minimise impacts on biodiversity, providing net gains in biodiversity, where possible. It also states that local planning authorities and planning policies should:

- Plan positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure.
- Take account of the need to plan for biodiversity at a landscape-scale across local authority boundaries.
- Identify and map components of the local ecological networks, including: international, national and local sites of importance for biodiversity, and areas identified by local partnerships for habitat restoration or creation.
- Promote the preservation, restoration and re-creation of priority habitats, ecological networks and the recovery of priority species populations, linked to national and local targets and identify suitable indicators for monitoring biodiversity in the plan.

¹Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, and Council Directive 79/409/EEC on the Conservation of Wild Birds, respectively.

²The **NERC Act** refers to "*species of principle importance for the conservation of biodiversity*", which translates to BAP habitats and species occurring in England.

³National Planning Policy Framework (DCLG, March 2012).

APPENDIX 2 – Wildlife friendly planting

Get your garden buzzing

- ▶ Plant flowers that are on the **RHS Perfect for Pollinators** plant lists
- ▶ Grow a **range of plants** for year-round flowering
- ▶ **Avoid** plants with double or multi-petalled flowers
- ▶ **Never use pesticides** on plants in flower
- ▶ Provide nest sites for **solitary bees**

Short grass (up to 15cm)

<i>Ajuga reptans</i> bugle	H
<i>Bellis perennis</i> daisy	H
<i>Campanula rotundifolia</i> common harebell	H
<i>Hippocrepis comosa</i> horseshoe vetch	H
<i>Lotus corniculatus</i> bird's foot trefoil	H
<i>Potentilla anserina</i> silverweed	H
<i>Potentilla erecta</i> tormentil	H
<i>Potentilla reptans</i> creeping cinquefoil	H
<i>Primula veris</i> common cowslip	H
<i>Prunella vulgaris</i> selfheal	H
<i>Ranunculus repens</i> creeping buttercup	H
<i>Sanguisorba minor</i> salad burnet	H
<i>Taraxacum officinale</i> dandelion	H
<i>Thymus polytrichus</i> wild thyme	H
<i>Thymus pulegioides</i> large thyme	H
<i>Trifolium pratense</i> red clover	H





Photo: RHS / Carol Sheppard (brimstone butterfly on purple loosestrife, *Lythrum salicaria*).

<i>Trifolium repens</i> white clover	H
<i>Veronica chamaedrys</i> germander speedwell	H

Hedges, shrub borders and woodland edges

<i>Acer campestre</i> field maple	S or T
<i>Alliaria petiolata</i> garlic mustard	Bi
<i>Allium ursinum</i> ramsons	B
<i>Aquilegia vulgaris</i> columbine	H
<i>Ballota nigra</i> black horehound	H
<i>Berberis vulgaris</i> barberry †	S
<i>Bryonia dioica</i> white bryony	H/C
<i>Buxus sempervirens</i> common box	S
<i>Campanula trachelium</i> nettle-leaved bellflower	H
<i>Clematis vitalba</i> old man's beard, traveller's joy	C

Natural England states: You can legally collect small quantities of wildflower seed for your own use, but you must get permission from the land's owner, tenant or other authority, as necessary. Although seed-collecting is allowed, you should not dig up native plants – many rare species are protected by law. You can collect seed of even rare plants, but cannot sell / trade seed or progeny.

Key to codes: T tree S shrub C climber B bulb / corm A annual Bi biennial H herbaceous perennial † denotes an archaeophyte (a naturalised plant introduced before 1500)

<i>Clinopodium vulgare</i> wild basil	H
<i>Cornus sanguinea</i> common dogwood	S
<i>Crataegus monogyna</i> common hawthorn	S or T
<i>Cytisus scoparius</i> common broom	S
<i>Digitalis purpurea</i> common foxglove	Bi
<i>Euonymus europaeus</i> spindle	S
<i>Fragaria vesca</i> wild strawberry	H
<i>Frangula alnus</i> alder buckthorn	S
<i>Galium mollugo</i> hedge bedstraw	H
<i>Galium odoratum</i> sweet woodruff	H
<i>Galium verum</i> lady's bedstraw	H
<i>Geranium robertianum</i> herb robert	A/Bi
<i>Geum urbanum</i> wood avens	H
<i>Hedera helix</i> common ivy	C
<i>Helleborus foetidus</i> stinking hellebore	H
<i>Hyacinthoides non-scripta</i> bluebell	B
<i>Ilex aquifolium</i> common holly	T
<i>Lamium album</i> white deadnettle	H
<i>Lamium galeobdolon</i> yellow archangel	H
<i>Ligustrum vulgare</i> wild privet	S
<i>Lonicera periclymenum</i> common honeysuckle	C
<i>Malus sylvestris</i> crab apple	T
<i>Malva sylvestris</i> common mallow	H
<i>Myosotis sylvatica</i> wood forget-me-not	H
<i>Primula vulgaris</i> primrose	H
<i>Prunus avium</i> wild cherry, gean	T
<i>Prunus padus</i> bird cherry	T
<i>Prunus spinosa</i> blackthorn, sloe	S
<i>Ranunculus ficaria</i> lesser celandine	H
<i>Rhamnus catharticus</i> purging buckthorn	S
<i>Rosa canina</i> dog rose	S
<i>Rosa rubiginosa</i> sweet briar	S
<i>Rubus fruticosus</i> blackberry	S
<i>Salix atrocinerea</i> grey willow	S – male forms best
<i>Salix caprea</i> goat willow	S – male forms best
<i>Sanicula europaea</i> sanicle	H
<i>Sedum telephium</i> orpine	H
<i>Silene dioica</i> red campion	H
<i>Silene latifolia</i> subsp. <i>alba</i> white campion	H
<i>Smyrniolum olusatrum</i> alexanders †	Bi
<i>Sorbus aria</i> common whitebeam	T
<i>Sorbus aucuparia</i> rowan, mountain ash	T
<i>Sorbus torminalis</i> wild service tree	T
<i>Stachys officinalis</i> betony	H
<i>Stellaria holostea</i> greater stitchwort	H

<i>Symphytum officinale</i> common comfrey	H
<i>Teucrium scorodonia</i> wood sage	H
<i>Tilia cordata</i> small-leaved lime	T
<i>Viburnum lantana</i> common wayfaring tree	S
<i>Viburnum opulus</i> guelder rose	S
<i>Vicia cracca</i> common tufted vetch	H
<i>Vicia sativa</i> common vetch	H

Disturbed ground

<i>Agrostemma githago</i> corncockle †	A
<i>Anchusa arvensis</i> bugloss †	A
<i>Anthemis arvensis</i> corn chamomile †	A
<i>Anthemis cotula</i> stinking chamomile †	A
<i>Centaurea cyanus</i> cornflower †	A
<i>Cichorium intybus</i> chicory †	H
<i>Dipsacus fullonum</i> common teasel	Bi
<i>Echium vulgare</i> viper's bugloss	Bi
<i>Glebionis segetum</i> corn marigold †	A
<i>Iberis amara</i> wild candytuft	A
<i>Lamium amplexicaule</i> henbit deadnettle †	A
<i>Matricaria recutita</i> scented mayweed †	A
<i>Mentha arvensis</i> corn mint	H
<i>Myosotis arvensis</i> field forget-me-not †	A/H
<i>Onopordum acanthium</i> cotton thistle †	Bi
<i>Papaver dubium</i> long-headed poppy †	A
<i>Papaver rhoeas</i> common poppy †	A
<i>Sinapis arvensis</i> charlock †	A
<i>Sonchus arvensis</i> perennial sowthistle	H
<i>Tussilago farfara</i> coltsfoot	H
<i>Verbascum thapsus</i> great mullein	Bi

Flower beds

<i>Calluna vulgaris</i> heather, ling	S
<i>Erica ciliaris</i> Dorset heath	S
<i>Erica cinerea</i> bell heather	S
<i>Erica tetralix</i> cross-leaved heath	S

Long grass (above 50cm)

<i>Arctium minus</i> lesser burdock	Bi
<i>Carduus crispus</i> welted thistle	Bi
<i>Carduus nutans</i> musk thistle	Bi
<i>Chamaenerion angustifolium</i> rosebay willowherb	H

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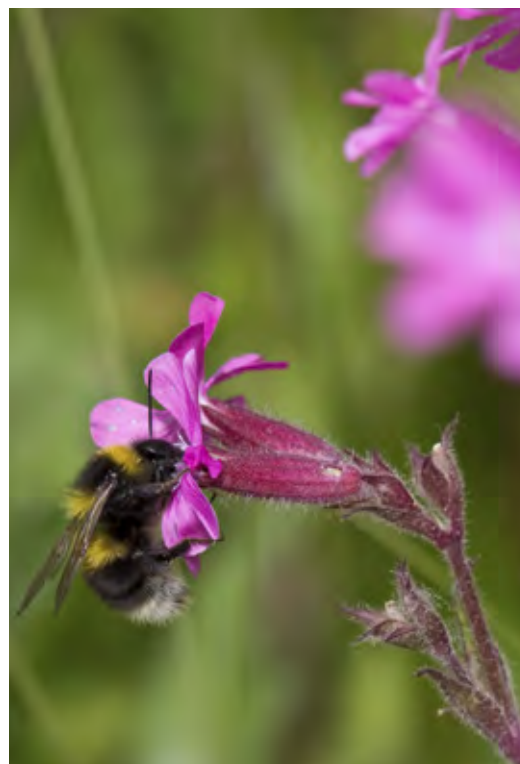


Photo: RHS / Jim Wileman (bumblebee on red campion, *Silene dioica*).

<i>Cirsium arvense</i> creeping thistle	H
<i>Cirsium vulgare</i> spear thistle	Bi
<i>Conopodium majus</i> pignut	H
<i>Cynoglossum officinale</i> hound's tongue	H
<i>Daucus carota</i> wild carrot	Bi
<i>Geranium pratense</i> meadow cranesbill	H
<i>Heracleum sphondylium</i> hogweed	Bi
<i>Hypericum perforatum</i> perforate St John's wort	H
<i>Knautia arvensis</i> field scabious	H
<i>Lathyrus pratensis</i> meadow vetchling	H
<i>Pastinaca sativa</i> wild parsnip	Bi
<i>Succisa pratensis</i> devil's bit scabious	H
<i>Tanacetum vulgare</i> tansy †	H
<i>Thalictrum flavum</i> meadow rue	H
<i>Tragopogon pratensis</i> goat's beard	Bi
<i>Verbascum nigrum</i> dark mullein	Bi/H

Medium height grass (up to 50cm)

<i>Achillea millefolium</i> common yarrow	H
<i>Achillea ptarmica</i> sneezewort	H
<i>Agrimonia eupatoria</i> agrimony	H
<i>Anthyllis vulneraria</i> kidney vetch	H
<i>Armeria maritima</i> thrift, sea pink	H

<i>Blackstonia perfoliata</i> yellowwort	A	<i>Iris pseudacorus</i> yellow iris	H
<i>Campanula glomerata</i> clustered bellflower	H	<i>Lotus pedunculatus</i> greater bird's-foot trefoil	H
<i>Centaurea nigra</i> common knapweed, hardheads	H	<i>Lychnis flos-cuculi</i> ragged robin	H
<i>Centaurea scabiosa</i> greater knapweed	H	<i>Lycopus europaeus</i> gypsywort	H
<i>Centaureum erythraea</i> common centaury	Bi	<i>Lysimachia nummularia</i> creeping Jenny	H
<i>Echium vulgare</i> viper's bugloss	Bi	<i>Lysimachia vulgaris</i> yellow loosestrife	H
<i>Erigeron acris</i> blue fleabane	A/H	<i>Lythrum salicaria</i> purple loosestrife	H
<i>Filipendula vulgaris</i> dropwort	H	<i>Mentha aquatica</i> water mint	H
<i>Helianthemum nummularium</i> common rockrose	H	<i>Menyanthes trifoliata</i> bogbean	H
<i>Hypochaeris radicata</i> cat's ear	H	<i>Myosotis scorpioides</i> water forget-me-not	H
<i>Inula conyzae</i> ploughman's spikenard	H	<i>Nasturtium officinale</i> common watercress	H
<i>Leontodon autumnalis</i> autumn hawkbit	H	<i>Nuphar lutea</i> yellow waterlily	H
<i>Leontodon hispidus</i> rough hawkbit	H	<i>Nymphaea alba</i> white waterlily	H
<i>Leucanthemum vulgare</i> ox-eye daisy	H	<i>Oenanthe aquatica</i> fine-leaved water dropwort	A/Bi
<i>Linaria vulgaris</i> common toadflax	H	<i>Oenanthe crocata</i> hemlock water dropwort	H
<i>Malva moschata</i> musk mallow	H	<i>Persicaria amphibia</i> amphibious bistort	H
<i>Ononis repens</i> common restharrow	H	<i>Persicaria bistorta</i> common bistort	H
<i>Origanum vulgare</i> wild marjoram	H	<i>Polemonium caeruleum</i> Jacob's ladder	H
<i>Pilosella officinarum</i> mouse-ear hawkweed	H	<i>Pulicaria dysenterica</i> common fleabane	H
<i>Ranunculus acris</i> meadow buttercup	H	<i>Ranunculus aquatilis</i> common water crowfoot	A/H
<i>Ranunculus bulbosus</i> bulbous buttercup	H	<i>Ranunculus flammula</i> lesser spearwort	H
<i>Reseda lutea</i> wild mignonette	Bi/H	<i>Ranunculus fluitans</i> river water crowfoot	H
<i>Rhinanthus minor</i> yellow rattle	A	<i>Ranunculus lingua</i> greater spearwort	H
<i>Scabiosa columbaria</i> small scabious	H	<i>Ranunculus sceleratus</i> celery-leaved buttercup	A
<i>Silene vulgaris</i> bladder campion	H	<i>Sagittaria sagittifolia</i> arrowhead	H
<i>Solidago virgaurea</i> goldenrod	H	<i>Sanguisorba officinalis</i> great burnet	H

Ponds, pond margins & wet soils

<i>Alisma plantago-aquatica</i> water plantain	H
<i>Angelica sylvestris</i> wild angelica	Bi
<i>Butomus umbellatus</i> flowering rush	H
<i>Caltha palustris</i> marsh marigold	H
<i>Cardamine pratensis</i> cuckoo flower, lady's smock	H
<i>Cirsium dissectum</i> meadow thistle	H
<i>Epilobium hirsutum</i> great willowherb	H
<i>Eupatorium cannabinum</i> hemp agrimony	H
<i>Filipendula ulmaria</i> meadowsweet	H
<i>Galium palustre</i> marsh bedstraw	H
<i>Geum rivale</i> water avens	H
<i>Hypericum tetrapterum</i> square-stalked St John's wort	H

Shingle / gravel garden

<i>Cakile maritima</i> sea rocket	A
<i>Crambe maritima</i> sea kale	H
<i>Crithmum maritimum</i> rock samphire	H
<i>Eryngium maritimum</i> sea holly	H
<i>Glaucium flavum</i> yellow horned poppy	Bi/H
<i>Sedum acre</i> biting stonecrop	H
<i>Sedum album</i> white stonecrop †	H
<i>Silene uniflora</i> sea campion	H

Natural England states: You can legally collect small quantities of wildflower seed for your own use, but you must get permission from the land's owner, tenant or other authority, as necessary. Although seed-collecting is allowed, you should not dig up native plants – many rare species are protected by law. You can collect seed of even rare plants, but cannot sell / trade seed or progeny.

Key to codes: T tree S shrub C climber B bulb / corm A annual Bi biennial H herbaceous perennial
† denotes an archaeophyte (a naturalised plant introduced before 1500)