



Iden Park, Staplehurst, Kent

Extended Phase I Habitat Survey

For and on behalf of

Brain Mathews

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CORYLUS ECOLOGY

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1.0 INTRODUCTION

- 1.1 Corylus Ecology has undertaken an Extended Phase I Habitat survey and bat tree assessment of an area of grassland to the north of Iden Park, Staplehurst in Kent, hereinafter referred to as the 'Site'. The Site lies in a semi-rural environment on the southern outskirts of the town of Staplehurst. The Site centre is located at OS grid reference TQ 78706 42545.
- 1.2 The Site is bounded by a petrol station to the north, the A299 road to the west, tennis courts and cricket pitches to east and a large estate to the south. The survey area measures approximately 0.5ha and consists predominantly of well managed grassland with a number of mature trees in the centre and woodland fragment to the west and a stream to the south. The proposals for the Site involve the construction of five residential properties and associated hard and soft landscaping within the Site.
- 1.3 The Extended Phase I Habitat Survey provides information relating to the habitats within and around the Site and identifies potential for and, if apparent, evidence of use by protected species. The Extended Phase I Survey highlights habitats that may have the potential to support protected species such as amphibians, reptiles, badgers and breeding birds. The bat tree assessment survey involved the external assessment of all trees within the development for evidence of use by and for potential use by bats.

Scope of Survey

- 1.4 The aims of the Extended Phase I Habitat and bat tree assessment survey were to:
- classify the habitats within the site according to those within the Phase I manual;
 - identify habitats of ecological interest suitable for further surveys, and the potential to encounter protected species; and
 - assess all trees within the Site boundary for their potential to support roosting bats, and
 - suggest appropriate recommendations and further surveys where necessary.

2.0 METHODOLOGY

2.1 Desk Study

2.1.1 A basic desk study was carried out in order to identify the types of habitat within the surrounding area and if there are any statutory or non-statutory designated sites within 3km of the Site. In addition, information regarding European Protected Species Mitigation licences and Priority Habitats were searched for within 3km of the Site by using freely available internet resource www.MAGIC.gov.uk ('Multi-Agency Geographic Information for the Countryside') interactive mapping service (DEFRA, 2016).

2.2 Extended Phase I Survey

2.2.1 The Site and the surrounding area were subject to an extended Phase I Habitat Survey on 24th May 2016. The habitats present on the Site were mapped in accordance with the '*Handbook for Phase I Habitat Survey – a Technique for Environmental Audit*' (Joint Nature Conservation Committee, 2003). Habitat areas and features of topographical and/or ecological interest were described in the form of target notes (TN). These were later used to create botanical species lists by target note area and also to create a colour coded Phase I Habitat map, which is presented as Figure 1. All nomenclature follows Stace (2010). Non-native or invasive species were also identified and mapped where appropriate.

2.3 Protected Species Assessment

2.3.1 The Phase I Habitat survey included an assessment of the potential for the Site and the surrounding area to support protected species. This type of survey aims to assess the potential for protected species to occur due to the habitats present but does not include any species specific survey methods designed to demonstrate whether the Site is in fact used by such species.

2.3.2 With regard to badgers *Meles meles*, any holes or scrapes likely to be used by or indicate the presence of badgers were searched for together with any other field signs associated with this species, including latrines, pushes and hairs.

2.4 Bat Tree Assessment

2.4.1 A ground level investigation of all suitable trees within the Site boundary was carried out to identify bat potential. Bats may use any crack or hole (such as woodpecker holes), splits or flaking bark and ivy (JNCC, 2004). Bats will also use different roosts at different times of the year. It can therefore often be difficult to definitely locate bat roosts in trees. Field signs to look for include dark streaking below holes and crevices, droppings under access points. Chattering noises emitted by bats may also be audible, particularly during the summer, however, even where bats are known to occur, such signs are not always evident.

2.4.2 Trees were placed into one of four categories as described below (Collins, 2016):

High: Trees with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis, and potentially for longer periods of time due to their size, shelter protection, conditions and surrounding habitat.

Moderate: A tree with one or more potential roost sites that could be used by bats, but which is unlikely to support a roost of high conservation status.

Low: A tree of sufficient size and age to contain potential roost features but with none seen from the ground, or features seen with only very limited roosting potential.

Negligible: Negligible features likely to be used by bats.

2.4.3 Trees were also noted if they supported ivy *Hedera Helix*. Ivy can do one of two things; very old, dense ivy can provide cavities for bats between the thick interwoven stems and the tree trunk or it can conceal features in the tree itself. The former would be classed as *Moderate* the latter would be *Low*.

3.0 RESULTS

3.1 Desk Study

Statutory Designated Sites

3.1.1 The Site falls within the Site of Special Scientific Interest (SSSI) Impact Risk Zone for the Sissinghurst Park Wood SSSI. This site is 32.9ha in size and is important for the number of rare plant species which occur in the woodland rides. The wood is predominantly sweet chestnut *Castanea sativa* coppice with large amounts of birch *Betula* spp., and contains very few standards. In places alder *Alnus glutinosa* woodland occurs along the lines of small streams and in seepage areas; the latter type being particularly restricted in Kent. Certain types of development within SSSI Impact Risk Zones require consultation with Natural England over the likely impacts; this is not applicable in this instance as, for residential developments, only proposals of 100 units or more require further consideration in regard to their impacts.

3.1.2 There are no Special Areas of Conservation (SAC) within 5km of the Site.

Non-statutory designated sites

3.1.3 There are two areas of Ancient Woodland within a 1km radius of the Site. The nearest is 1km to the east of the Site which is Nine Acre Wood with Gooseberry Wood 0.85km to the south-west of the Site.

European Protected Species

3.1.4 There are two records of a European Protected Species Mitigation (EPSM) Licence found within a 3km radius of the Site. The nearest EPSM licence is located 1.1km to the north-west of the Site for Great Crested Newt *Triturus cristatus* the licence is active between 2013 and 2017. Some 1.2km to the north of the Site is a bat EPSM licence active in 2011 for common pipistrelle *Pipistrellus pipistrellus* and brown long-eared bat *Plecotus auritus*.

3.2 Extended Phase 1 Habitat Survey

Site Description

- 3.2.1 The Site lies within a semi-rural environment on the southern edge of Staplehurst bounded by a petrol station to the north, the A299 road to the west, tennis courts and cricket pitches to east and a large managed estate to the south.. The Site is approximately 0.5ha in size and is predominantly an area of well managed grassland, with woodland fragments to the west, stream to the south and mature trees.
- 3.2.2 The habitats present are shown within Figure 1 with further details provided by way of specific Target Notes, denoted by the letters TN.

Woodland Fragment

- 3.2.3 The western boundary of the Site consists of a woodland fragment approximately 40m wide and runs north to south between the A299 and the Site (TN1). This woodland area was either planted or allowed to establish in the 1890s with historic maps showing buildings and gardens in this location before this date and has since been allowed to mature. The woodland has good structure and is fairly uniform with mature trees largely being of a similar size and age. The canopy layer is dominated by semi-mature ash *Fraxinus excelsior* but also includes semi-mature oak *Quercus robur*, horse-chestnut *Aesculus hippocastanum*, hazel *Corylus avellana*, hawthorn *Crataegus monogyna* and London plane *Platanus × acerifolia*. The shrub layer of the wood is fairly sparse which is dominated by hawthorn, ash, holly *Ilex aquifolium*, elder *Sambucus nigra*, garden privet *Ligustrum ovalifolium* and occasional yew *Taxus baccata*. The ground flora is mixed with some areas heavily shaded and bare and other more open areas with a good diversity of species. The species here include wood anemone *Anemone nemorosa*, dog's mercury *Mercurialis perennis*, cleavers *Galium aparine*, broad-leaved dock *Rumex obtusifolius*, lesser celandine *Ranunculus ficaria*, common nettle *Urtica dioica*, forget-me-not *Myosotis* sp, common ivy *Hedera helix* ssp., germander speedwell *Veronica chamaedrys* and occasional bramble *Rubus fruticosus* sp. agg, and common spotted orchid *Dactylorhiza fuschii*, however this was only found in a single isolated patch.

Woodland Edge

- 3.2.4 The eastern edge of the woodland TN1 is formed of a manged boundary feature between the grassland area and the woodland (TN2). This boundary feature consists of a post and wire fence with a planted field maple hedge which has grown out. The species here consist of field maple *Acer campestre*, hawthorn, ash, elder, honeysuckle *Lonicera periclymenum* and sycamore *Acer pseudoplatanus*. The ground flora is dominated by common nettle and cleavers but also includes broad-leave dock and spear thistle *Cirsium vulgare*.

Semi-improved grassland

3.2.5 The majority of the proposed Site consist of a well-managed, semi-improved grassland (TN3). This grassland is currently being regularly cut with eight to ten cuts annually, however in the past it is understood it has also been used for livestock, including both sheep and cattle grazing. The grass species within the sward is dominated by Yorkshire fog *Holcus lanatus*, smooth meadow-grass *Poa pratensis*, annual meadow-grass *Poa annua*, common bent *Agrostis capillaris*, timothy grass *Phleum pratense*, sweet vernal grass *Anthoxanthum odoratum* and red fescue *Festuca rubra*. The herb species within the sward are limited and sparse dominated by creeping buttercup *Ranunculus repens* and including common sorrel *Rumex acetosa* and red clover *Trifolium pratense*, broad-leaved dock is found in clumps in lower areas that are damp within the field.

Stream

3.2.6 The Site's southern boundary is formed of a fast flowing stream that flows to the west (TN4). The banks of the stream are dominated by cow parsley *Anthriscus sylvestris* but also includes soft rush *Juncus effusus*, broad-leaved dock and floating grass *Glyceria fluitans* in the water. This stream is periodically dredged by order of the Environment Agency to prevent flooding on the nearby A299.

Boundary Feature

3.2.7 The Site's eastern boundary is a post and wire fence with sparse vegetation (TN5). The species here consist of self-sown oak and ash saplings, cow parsley, bramble, common nettle, cleavers and Lords-and-Ladies *Arum maculatum*.

3.3 Protected Species Assessment

Bat Tree Assessment

3.3.1 All suitable trees within the Site were assessed for bat potential and seven trees were categorised as having either High, Medium, Low or negligible bat potential. Descriptions of the trees are provided below and their locations are provided on Figure 1.

Table 1 – Bat Tree List

Tree Ref	Species	Potential	OS Grid Reference	Description
T1	London Plane	High	TQ 78616 42541	Mature tree, multiple holes on east face of stem at 4m, 6m and 10m.
T2	Pendunculate Oak	Negligible	TQ 78609 42543	Mature tree, in good health with no features. Crows nesting in canopy

T3	Pendunculate Oak	Negligible	TQ 78629 42528	Mature tree, in good health with no features. Crows nesting in canopy
T4	Pendunculate Oak	Negligible	TQ 78601 42525	Mature tree, in good health with no features. Crows nesting in canopy
T5	Pendunculate Oak	Low	TQ 78697 42562	Veteran oak tree, twin stem 90cm dbh for both stems, in good health with no features.
T6	Pendunculate Oak	High	TQ 78722 42568	Veteran oak tree, Single stem 1m dbh, split limb at 5m on the east side and woodpecker holes at 10m high
T7	Pendunculate Oak	Medium	TQ 78735 42569	Veteran oak tree, single stem 1.2m dbh, with ivy cover on stem. Multiple stag end within canopy.

3.3.2 The impact of the proposals have to be considered in relation to foraging and commuting bats, as well as any roosts. The habitat within the site boundary includes short managed species-rich grassland, mature trees, a stream and woodland. These habitats are considered to be good quality foraging and commuting habitat for bats (Collins 2016).

Amphibians

3.3.3 There are no waterbodies located within the Site however there are five waterbodies located within 500m of the Site. The nearest waterbody is Pond 1 (P1) located 65m to the south-west of the Site within the woodland. Pond 2 (P2) is located 300m to the north of the Site. Pond 3 (P3) is located 270m to the south of the Site and is a large lake. Pond 4 (P4) is located 380m to the south-west of the Site to the west of the A299 and Pond 5 (P5) is located 440m to the south-west of the Site also on the west side of the A299. The pond locations are shown on Figure 2.

3.3.4 All five ponds were ruled out for having habitat suitability index (HSI) assessments. Pond 1 was found to be dry during the Extended Phase 1 habitat survey, this waterbody appears to only hold water when the adjacent stream overflows a lower section of the bank to fill a depression, and as such it is likely that it only holds water at times of high rainfall or during the winter months. Pond 2 is located 300m to the north of the Site within private land. Access was not granted to this pond, however it could be seen from the adjacent road and a basic assessment was made. The pond appears to be ornamental and contains fish such as goldfish could be seen, the surrounding terrestrial habitat appears to be used to keep chickens, with a coop and chicken wire fencing noted. Pond 3 is large lake which is over 2000m² in size and as such not suitable for an HSI assessment. This lake is also used by a large number of wildfowl including ducks, geese and swans the lake was also noted to be stocked with fish. This pond along with Ponds 4 and 5 are separated from the Site by a fast flowing stream to the south of the Site. Fast flowing water is avoided by GCN and would form a significant barrier to movement. Ponds 4 and 5 are also

separated from the Site by dense residential housing and the A299, which is adjacent to the western boundary of the Site. It is considered that this road would also be a significant barrier to movement of newts.

- 3.3.5 The Site contains suitable terrestrial habitat for GCN: the area of woodland does provide suitable foraging habitat with occasional fallen trees/branches providing shelter. The grassland is sub-optimal habitat as it is short and well managed but would provide habitat suitable for commuting rather than for shelter.

Reptiles

- 3.3.6 The habitat within the Site has poor suitability for reptiles. There is low potential to support a population of reptiles as the area of grassland is well managed and cut short to the boundaries at regular intervals throughout the year. The woodland to the west does hold suitable habitat for shelter and hibernation however it is too shaded to for basking. The stream on the southern boundary has low suitability for use by reptiles however the banks are well managed and isolated being surrounded by managed grassland. The stream is also regular disturbed with the course regularly dredged to prevent flooding to the A299. The Site is bordered by poor quality reptile habitat on most sides and is therefore relatively isolated from connecting habitat that is suitable for use by reptiles.

Breeding Birds

- 3.3.7 The woodland to the west and mature trees within the Site provide suitable habitat for breeding birds. The grassland within the Site is short and too regularly cut to be suitable for ground nesting birds.

Mammals

- 3.3.8 No sign of badgers were found on site, with no obvious holes, latrines or well used mammal paths found.

Dormice

- 3.3.9 The woodland on the western edge of the Site has potential to support dormice with mature trees, however it does have a sparse shrub layer. This habitat is isolated from any other suitable connecting habitat as it is surrounded by either residential development to the north and south, the A299 to the west and open grassland to the east. The woodland is also relatively young, being established in the 1890's.

4.0 EVALUATION AND IMPACT ASSESSMENT

4.1 Overview

4.1.1 An Extended Phase I Habitat Survey and protected species assessment was carried at the Iden Park, Staplehurst site in April 2016. The Site was found to contain species typical of managed grassland and unmanaged woodland.

4.1.2 The proposals for the Site include the construction of five residential dwellings within the centre of the grassland with associated hard and soft landscaping. The proposals include the mature trees within the Site to be retained as a buffer between the Site and the stream on the southern boundary. Access to the Site will be from a single access drive that is proposed to enter the Site from west through the woodland area connecting with the A299.

Desk Study

4.1.3 The Site falls within the Site of Special Scientific Interest (SSSI) Impact Risk Zone for the Sissinghurst Park Wood SSSI. Certain types of development within SSSI Impact Risk Zones require consultation with Natural England. However, consultation is required for residential applications of 100 units of more outside of existing settlements (DEFRA, 2016), and this project involves the construction of approximately up less than 100 houses. It is therefore considered that consultation with Natural England will not be required.

4.1.4 There are two records of a European Protected Species Mitigation (EPSM) Licence found within a 3km radius of the Site. The nearest EPSM licence was found 1.1km to the north-west of the Site for great crested newt, active between 2013 and 2017. Some 1.2km to the north of the Site is a bat EPSM for common pipistrelle and brown long-eared bat from 2011. Outside of these records it is known by Corylus Ecology of a Site 1.35km to the north-east of the Site with a number of ponds that have a confirmed GCN population in, the nearest of these ponds to the Site is some 1.1km from the Site. Between these ponds and the Site are a number of small roads, a stream and dense residential development.

Extended Phase 1 Habitat Survey

4.1.5 The Extended Phase 1 Habitat Survey identified no rare or nationally scarce plant species and no invasive species and the Site was found to support a relatively limited diversity of plants and habitats that is consistent with a well-managed grassland and unmanaged woodland. However the woodland was found to have some rarer plant species and an ancient woodland indicator such as wood anemone, common spotted orchid and dog's mercury. However the woodland is not ancient woodland as it did not exist before 1890.

4.2 Protected Species Assessment

Bat Trees

4.2.1 All trees within the Site were assessed for their potential to be used by bats. Seven trees within the Site were large and mature enough to support features. All other trees within the Site were found to be too small and immature to have developed features that bats could use. Out of the seven trees two were found to have high potential (T1 and T6) three have negligible potential (T2, T3 and T4), one has medium potential (T7) and one has low potential (T5). Under the current proposals none of these trees will be directly affected. These trees are within the grassland area are being retained. Regarding the trees within the woodland fragment, the proposed access road is not located close to the tree with high potential (T1) to be considered as having a direct impact on a potential bat roost.

Bat Activity

4.2.2 The Sites' suitability to be used by foraging and commuting bats is good with a combination of suitable habitats such as the woodland to the west, mature trees in the centre and the stream on the southern boundary. The grassland which makes up the majority of the Site is less suitable due to the regular management keeping the sward low and therefore unsuitable to support an assemblage of invertebrates for favourable bat foraging habitat.

4.2.3 There has been much research into the dispersal and foraging of bats. Research into the habitat preferences for foraging of vespertilionid bats (Walsh and Harris, 1996) found that habitats associated with broadleaved woodland, particularly the woodland edge, and water were most preferred for foraging, whilst arable land, moorland and improved grassland were strongly avoided. As well as the selective preference of habitats for foraging by bats, it has also been shown that certain habitats have strong correlations with bat abundance, with riverine, woodland, lacustrine and vegetation corridors having a strong positive effect on bat numbers in comparison to arable land being strongly negatively related (Walsh and Harris, 1996). The same research found that broadleaved woodland and riparian habitats were of 'pivotal' importance to bats.

4.2.3 The Site is approximately 0.5ha in size and the best features on the Site are the mature oaks in the centre, woodland and stream. The current proposals do not directly impact the stream as it will be outside the development area and will also retain the mature oaks, however a new access road will be created in the woodland section to the west. Due to the size of the Site and scale of the proposals it is not recommended that further bat activity surveys are carried out, however as good quality foraging habitat will be disturbed and damaged by the proposals, mitigation is required. This will take the form of a sensitive lighting strategy, species rich native planting to compensate what will be lost to the access road and the installation of bat boxes within the mature trees. The lighting strategy is discussed in detail below and the planting recommendations will be provided in section 4.2.18. Addition roosting

opportunities should be provided in the form of three Schwegler 2F bat boxes that should be installed within the mature oak trees T5, T6 and T7.

Sensitive lighting strategy suggestions

- 4.2.4 The following points take into account current best practice guidance which should be incorporated into the lighting design (Bat Conservation Trust, 2012).
- Do not provide excessive lighting. Use only the minimum amount of light needed for safety.
 - Minimise light spill. Eliminate any bare bulbs and any upward pointing light. The spread of light should be kept near to or below the horizontal; flat cut-off lanterns are best.
 - Use narrow spectrum bulbs to lower the range of species affected by lighting. Use light sources that emit minimal ultra-violet light and avoid the white and blue wavelengths of the light spectrum to avoid attracting lots of insects. Lighting regimes that attract lots of insects result in a reduction of insects in other areas like parks and gardens that bats may be using for foraging.
 - Lights should peak higher than 550nm or use glass lantern covers to filter UV light. White LED lights do not emit UV but have still been shown to disturb slow-flying bat species.
 - Reduce the height of lighting columns; light at a low level reduces impact. However, higher mounting heights allow lower main beam angles, which can assist in reducing glare.
 - For pedestrian lighting, use low level lighting that is as directional as possible and below 3 lux at ground level, but preferably below 1 Lux.
 - Increase the spacing of lanterns.
 - Limit the times that lights are on to provide some dark periods.
 - Use lighting design software and professional lighting designers to predict where light spill will occur.
 - Avoid using reflective surfaces under lights.

Amphibians

- 4.2.5 There are no ponds within the Site, however a single pond was marked within 250m of the Site and a further four ponds are located within 500m of the Site. Out of these five ponds all were ruled out for having habitat suitability index (HSI) assessments and from further survey due to unsuitability and/or lack of access.
- 4.2.6 Pond 1 was found to be dry during the phase 1 habitat survey, this waterbody appears to only hold water when the adjacent stream overflows a lower section of the bank to fill a depression, and as such it is likely that it only holds water during the winter months. Pond 2 is located 300m to the north of the Site within private land. Access was not granted to this pond, however it could be seen from the adjacent road and a basic assessment was made. The pond appears to be ornamental in nature and contains

fish such as goldfish could be seen, the surrounding habitat also appears to be used to keep chickens with a coup and fencing seen also the pond is immediately surrounding land is good quality terrestrial habitat, being hedges, scrub and long grassland while the intervening habitats are of poor quality for newt dispersal being roads, hardstanding, residential dwellings, a petrol station and tennis courts. Pond 3 is large lake which is over 2000m² in size and as such not suitable for an HSI assessment. This lake is used by a large number of wildfowl including ducks, geese and swans the lake also has a large fish population. This pond along with Ponds 4 and 5 are separated from the Site by a fast flowing stream that flows to the south of the Site. Fast flowing water is avoided by GCN and would form a significant barrier to movement. Ponds 4 and 5 are also separated from the Site by dense residential housing and a busy A road the A299 that's is adjacent to the western boundary of the Site. This road would also be a significant barrier to movement of newts.

- 4.2.7 The Site contains suitable terrestrial habitat for GCN: the area of woodland does provide suitable foraging habitat with occasional logs providing shelter. The grassland is sub-optimal habitat as it is short and well managed and would be more suitable for commuting and not for shelter.

Licence Risk Assessment

- 4.2.8 Natural England's GCN European Protected Species (EPS) licensing service includes a section which is referred to as a "Licence Risk Assessment". This provides a way of assessing the amount of habitat to be lost in proximity to any breeding pond and whether an offence is likely, depending on the distance and area of habitat affected. This is in recognition of the terrestrial movements of GCN and the increased probability of encountering animals closer to breeding ponds.
- 4.2.9 Only one pond within 500m could have the possibility to support GCN which is P2 some 300m to the north of the Site. No other ponds within 500m are suitable to be assessed as they are either dry, unsuitable for GCN or separated from the Site by significant barriers to movement such as a fast flowing stream. The Licence Risk Assessment has been run based on this evidence. The development boundary includes 0.5ha of land, however not all of this will be affected by the proposals and as such the between 0.1 and 0.5ha of habitat will be affected by the proposals between 250m and 500m of P2. The licence risk assessment has been reproduced in Table 2 below.

Table 2 – Natural England licence risk assessment:

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.005
Individual great crested newts	No effect	0
	Maximum:	0.005
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

4.2.10 **"Green: offence highly unlikely"** indicates that the development activities are of such a type, scale and location that it is highly unlikely any offence would be committed should the development proceed.

Therefore, no licence would be required. However, bearing in mind that this is a generic assessment, you should carefully examine your specific plans to ensure this is a sound conclusion, and take precautions (see **Non-licensed avoidance measures tool**) to avoid offences if appropriate. It is likely that any residual offences would have negligible impact on conservation status, and enforcement of such breaches is unlikely to be in the public interest

4.2.11 GCN are fully protected under The Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2010. The protection afforded to GCN is such that the animals, their eggs and the habitats they use for rest or shelter are protected, including both aquatic and terrestrial habitats; consideration must therefore be given to the potential of death or injury of individual animals and the potential for damage/destruction of GCN habitats. Although the only viable pond within 500m of the Site has been deemed unlikely to be used by GCN it would be best practice to carry out measures during the development works to reduce the likelihood of harming individual newts, as recommended by Natural England (Table 3). If these measures are followed the risk to individual newts within the Site would be reduced and further surveys would be required.

Table 3 – Natural England licence risk assessment: typical measures which could be employed to reduce the likelihood of committing an offence

Project element	Suggestions for avoidance measures
Location & layout	<p>(a) Locate site as far as possible from potential breeding ponds and high quality terrestrial habitat.</p> <p>(b) Locate in areas subject to high pre-existing fragmentation.</p> <p>(c) Locate on hard, compacted ground with few fissures.</p> <p>(d) Design layout so that any hard landscaping is as far as possible from ponds, with retained habitat and soft landscaping toward ponds.</p>
Timing & duration	<p>(a) Restricting works to the winter period (when newts are rarely active above ground) is sensible if the project would not harm hibernation habitat.* Projects with temporary habitat disruption and reinstatement, such as some pipelines, could potentially be carried out without any licensable activity in this way.</p> <p>(b) Keep duration of groundworks as short as possible.</p> <p>(c) Undertake during the day works that might only affect newts above ground.</p>
Construction methods and special precautions	<p>(a) Backfill trenches and other excavations before nightfall, or leave a ramp to allow newts to easily exit.</p> <p>(b) Raise stored materials (that might act as temporary resting places) off the ground, e.g. on pallets.</p> <p>(c) For pipelines, use directional drilling to cross areas of core habitat and dispersal routes.</p> <p>(d) Avoid installing structures that act as barriers close to ponds, or include gaps at ground level where walls or fences are unavoidable.</p>

* Where works will impact on habitat where there is a low likelihood of finding hibernating animals, works should preferably be undertaken during the spring/summer months.

Reptiles

4.2.12 The Site has been well managed for a substantial period of time either being grazed by livestock or more recently machine cut up 10 times a year. As such the grassland is kept short and provides poor habitat for use by reptiles. The section of woodland to the west of the Site has limited potential to be used by slow worms for rest and shelter due to their sublittoral nature, however it does not provide any areas to bask. The Site is also isolated from other suitable habitat being surrounded by further well managed grassland to the north and south, the A299 to the west and cricket and tennis courts to the east. As such no further surveys for reptiles are required.

Breeding Birds

- 4.2.13 The woodland to the west of the Site and mature trees within the centre of the Site are considered to be suitable for breeding birds. It is considered likely that these habitats would be used by the more widespread garden species rather than any rare or protected species. The grassland that makes up the majority of the Site is well managed and cut throughout the year and is unsuitable to be used by ground nesting birds.
- 4.2.14 All breeding birds, including the eggs and chicks, are protected from disturbance up until the eggs have hatched and the chicks have fledged. This means that if works start and an active nest is found, work will have to cease until the chicks have fledged. Under the current proposals, none of the mature trees within the centre of the Site will be affected by the proposals, however if any trees need to have arboricultural work carried out, the work should be undertaken between October and February, which avoids the breeding bird season. The proposals will also involve the loss of a small section of woodland to the west of the Site for the construction of the access road. If these dates do not coincide with planned schedules, the trees should be checked for active nests by a suitably experienced ecologist before works commence. If an active nest is found, works will have to be delayed until it is no longer in use.

Mammals

- 4.2.15 No sign of badgers were found on site, with no obvious holes, latrines or well used mammal paths found. No further surveys are recommended.

Stream

- 4.2.16 The Site is immediately adjacent to a stream to the south of the Site. The following precautions recommended by the Environment Agency should be taken during works to avoid causing any damage to this ecosystem and to maintain its status (Environmental Alliance, 2007):
- Topsoil has very high nutrient levels, and if these nutrients drain or leach into the water they will reduce water quality. To avoid any enrichment problems, don't store or dispose of topsoil in any areas where it can be washed into the stream. Ensure topsoil that is temporarily stored on site is kept away from the stream and stored behind temporary bunds if necessary.
 - No nutrients or waste water should be discharged into the stream from the proposed buildings.
 - If wet concrete or cement is to be used, these materials should be carefully controlled: they should be stored and used a safe distance away from the stream channel. Fresh cement and concrete are highly alkaline and corrosive, and can cause serious pollution within watercourses.
 - The bankside habitat should be protected: the river bank area (TN4) should be excluded from the construction site area and ideally fenced off during works. The vegetation adjacent to the stream should be retained, without cutting back or herbicide use.

Ecological Enhancement Strategy

- 4.2.17 The National Planning Policy Framework (NPPF) sets out planning policies on the protection of biodiversity and geological conservation through the planning system. Section 11 of the National Planning Policy Framework sets out the Government's current planning policy in relation to conserving and enhancing the natural environment. The NPPF states that "the planning system should contribute to and enhance the natural and local environment by:
- Protecting and enhancing valued landscapes, geological conservation interests and soils;
 - Recognising wider benefits of ecosystem services;
 - Minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures".
- 4.2.18 The proposals for the Site should involve generous planting throughout the Site with the emphasis on the retention, protection and enhancement of the Site's existing features which hold the Site's best biodiversity. The proposals predominately affect the manged grassland area and will retained the mature trees within the centre of the Site, the eastern boundary feature and stream to the south. However an access road will be built through the woodland to the west. With regard to providing a net gain for biodiversity as well as providing enhancements to protected species such as bats it is proposed that the following measures are employed within the development.
- 4.2.19 The existing boundary feature to the east of the Site and the stream to the south should not become curtilage to any development but left with buffer between these features and any development, Figure 3 shows the mitigation measures in detail:
- A fence should be installed at the rear of the gardens along all boundaries of the Site in order to prevent the habitats at the field margins from becoming curtilage. The fence will protect the trees, tall ruderal vegetation, scrub and the proposed ecological buffers in these areas from being cut by residents, which will allow the vegetation to grow up and ensure that wildlife can still move freely along these green corridors and buffers.
 - Woodland Planting: Due to approximately 0.05ha of the western block of woodland being lost due to the access road it is recommended that new woodland planting is panted within the Site in order to mitigate for the loss of these habitat. This planting should be situated adjacent to the existing woodland in order for it to be connected and established into a single woodland area. The species to be planted should match the existing woodland that will be lost as such it should include oak, holly, hawthorn, field maple and horse chestnut but also include native woodland species such as hazel, spindle and blackthorn in order to increase diversity. The location of this planting is marked on Figure 3.

- Additional planting should be added to the eastern boundaries with a hedgerow to be planted to fill any gaps in existing boundary and tree. Any new tree and shrub planting should be from native species and locally sourced. Suitable species would include hawthorn, blackthorn *Prunus spinosa*, holly, spindle *Euonymus europaeus*, hazel, field maple *Acer campestre*, dog rose *R. canina* and honeysuckle *Lonicera periclymenum* that all benefit small mammals and birds.
 - In addition to the above it is recommended that nectar rich plants are considered for any landscape planting around the Site and where other opportunities may exist, for example, where any flower beds are to be created. A list of nectar rich species for bumblebees prepared by Buglife (www.buglife.co.uk) is given as Appendix 1. It is essential that flowering plants are available for as long as possible through the seasons and a combination should be chosen from the plants recommended for spring, summer and late summer.
 - The provision of bird nest boxes, specifically house sparrow colony boxes sited on buildings at 2-5m height and positioned facing between north and east, to avoid strong sunlight and cold winds. Additional two hole opening bird boxes and two open fronted should be positioned in the retained mature trees within the centre of the Site.
 - Wildflower Meadow: Where possible areas of wildflower meadow should be created within the development either within areas of public open space and/or within discrete areas throughout the development. Wildflower meadows provide a valuable nectar source to encourage a rich invertebrate diversity, particularly for bees and provide cover and enhance foraging for a range of species. This measure should provide a gain for biodiversity and compensate for the loss of the grassland habitat.
 - Root protection: For the three mature oak trees within the centre of the Site should be provided for the development with clearly marked fencing to prevent access and compaction.
- 4.2.20 Throughout the proposed development site any open areas which are part of the soft landscaping should be enhanced for biodiversity increase. The species which are chosen to be planted should be heavily fruiting and flowering native species (see Appendix 1). Native planting would benefit local wildlife by providing nest building opportunities and food sources for small mammals, birds and invertebrates, as well as foraging opportunities for reptiles and bats. Tree planting should incorporate native species such as hawthorn, blackthorn, hazel, pedunculate oak, *Prunus* species, rowan and wild service-tree, and herbaceous planting should include nectar-rich species with a selection chosen with staggered flowering times through spring, early summer and late summer. Species such as lavender, heathers and travellers joy are good nectar sources for bumblebees and other insects, and traveller's joy can also be used by birds to forage and nest in.

5.0 CONCLUSIONS

- 5.1 An Extended Phase 1 Habitat Survey has been undertaken of the Site in June 2016. No rare or uncommon habitats or plant species have been recorded.
- 5.2 An assessment of all trees within Site for the potential to be used by bats has been conducted and no trees that will be directly affected by the proposals held potential to be used by bats. However a number of trees adjacent to the development works do hold bat roosting potential and recommendations have been given on the protection and retention of these trees.
- 5.3 The sites holds good potential for use by foraging and commuting bats, however the best features within the Site are being retained and recommendations have been provided for the use of a sensitive lighting strategy and native planting.
- 5.4 With regard to great crested newts no further surveys are considered necessary. All ponds within 500m of the Site have been ruled out from further survey due to a combination of distance from the Site, the low quality of intervening habitats for GCN dispersal and the presence of significant barriers to newt movement such as a fast-flowing stream or major road. The land owner of P2 did not grant permission to carry out surveys and an objective assessment based on desk study data and the pondscape has therefore been carried out. This assessment has deemed that P2 is unlikely to be used by GCN. However in the absence of presence / likely absence survey data for the pond, recommendations have been given for Site works to be carried out in a way that would reduce the chance of impacts on newts should they be present.
- 5.5 The Sites does not provide suitable habitat for use by reptiles and therefore no further surveys for reptiles is required.
- 5.6 Bat and bird boxes have been recommended to be installed within the mature trees within the Site.
- 5.7 With regard to the NPPF, recommendations have been given for the planting of native tree and shrub species where possible to create new habitats and pollen rich plant as well as woodland planting to mitigate for the loss of the woodland due to the access road.

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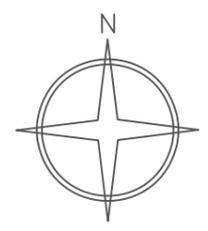
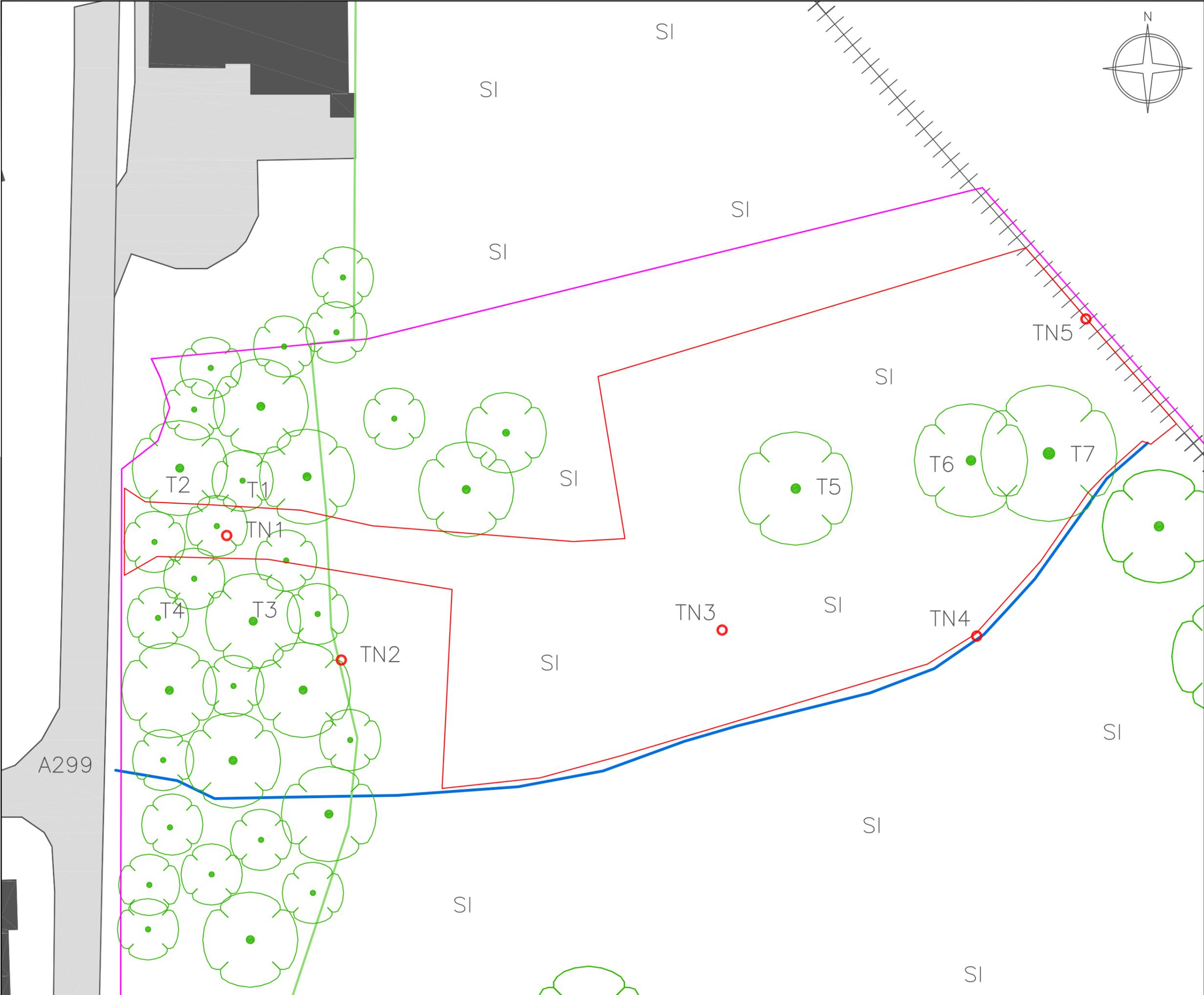
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Key

	Site Survey Area
	Site Ownership
	Tree
	Semi-Improved Grassland
	Wet Ditch
	Species Poor Hedge
	Fence
	Building
	Hard Standing

revision	description	date	checked by

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Project:
Iden Park, Staplehurst

Title:
Extended Phase 1 Survey Plan

status		drawing no. Figure 1			
scale	size	date	drawn	checked	
NTS	A3	16-06-2016	AW	CG	
CAD filename Figure_1.dwg					

Figure 2 - Phase 1 Annotated Photographs



Woodland TN1



Eastern edge to woodland TN2



Looking north across the grassland TN3



Grassland TN3



Eastern boundary to Site TN5



Stream and Bank TN4



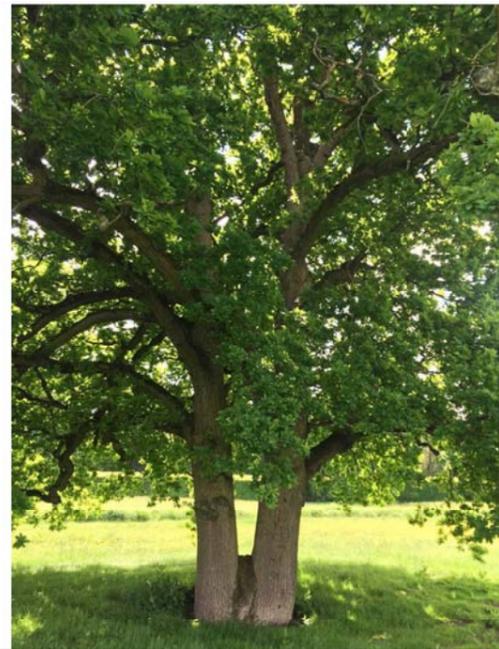
Tree T1



Tree T2



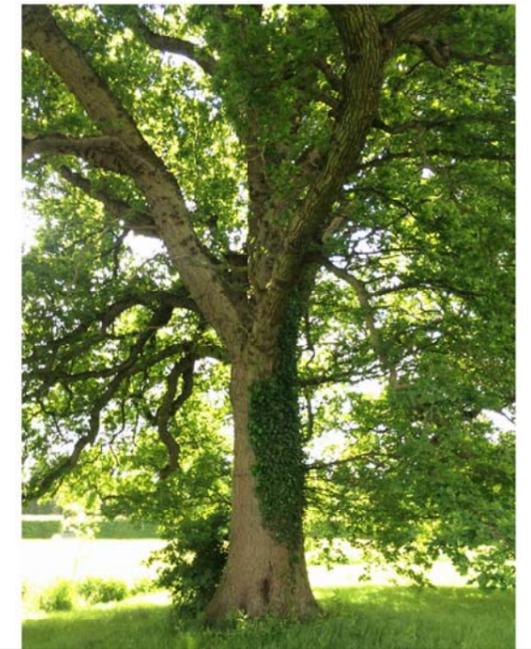
Tree T4



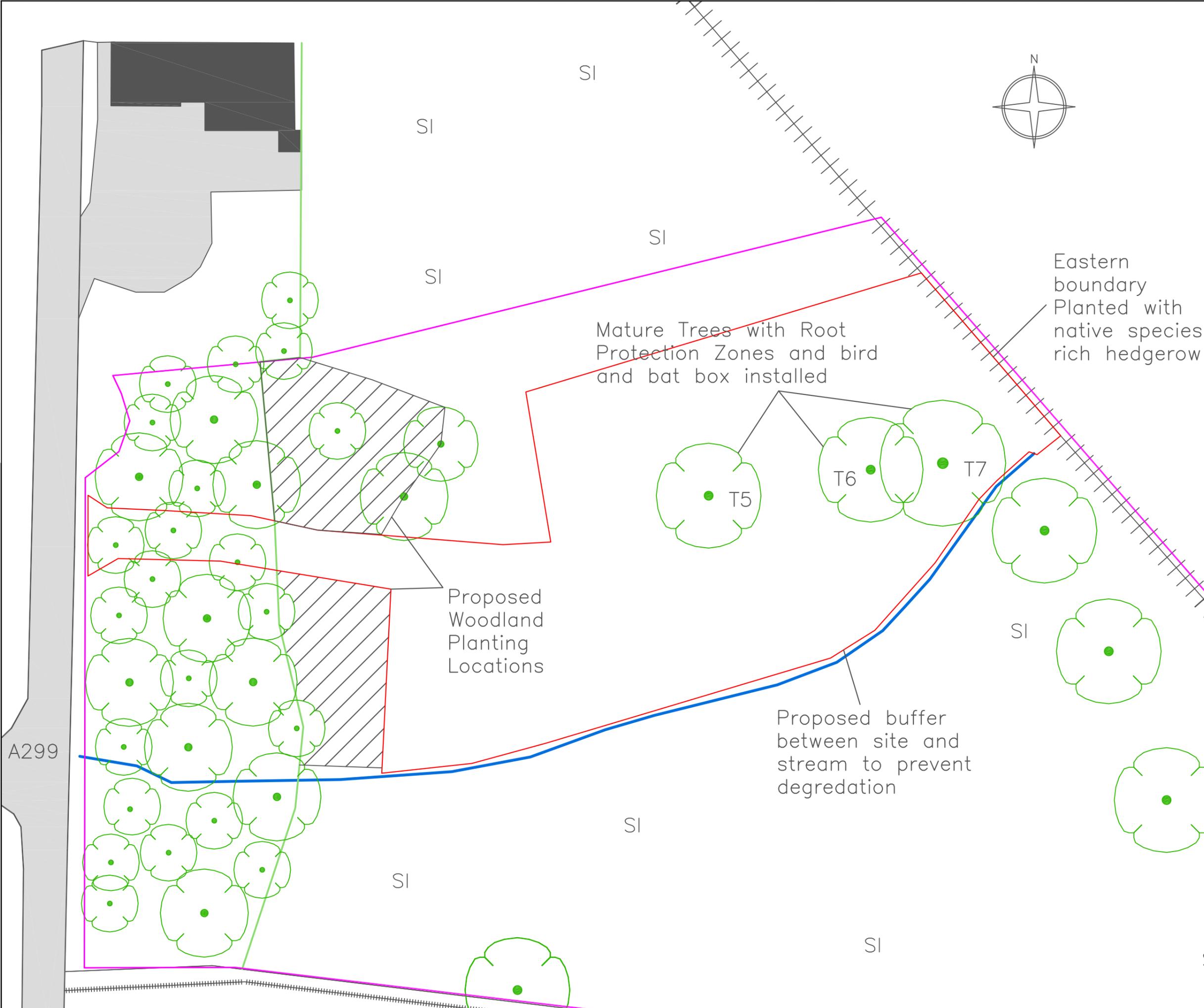
Tree T5



Tree T6



Tree T7



- Key
- Site Survey Area
 - Site Ownership
 - Tree
 - Semi-Improved Grassland
 - Wet Ditch
 - Species Poor Hedge
 - Fence
 - Building
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Project:
Iden Park, Staplehurst

Title:
Ecological Mitigation plan

status		drawing no. Figure 3			
scale	size	date	drawn	checked	
NTS	A3	16-06-2016	AW	CG	
CAD filename Figure_1.dwg					



RHS PERFECT FOR POLLINATORS PLANT LIST

WINTER

NOV – FEB

Clematis cirrhosa <i>a clematis</i>	C
Crocus biflorus <i>a crocus</i>	B
Crocus tommasinianus <i>a crocus</i>	B
Crocus vernus <i>a crocus</i>	B
Eranthis hyemalis <i>winter aconite</i>	B
× Fatsyhedera lizei <i>tree ivy</i>	S
Galanthus nivalis <i>snowdrops – single flowered forms</i>	B
Helleborus argutifolius <i>a hellebore</i>	H
Helleborus foetidus <i>native plant – stinking hellebore</i>	H
Helleborus × hybridus <i>a hellebore</i>	H
Helleborus × sternii <i>a hellebore</i>	H
Lonicera × purpusii <i>a honeysuckle</i>	S
Mahonia × media <i>Oregon grape</i>	S
Salix aegyptiaca <i>a willow</i>	S
Sarcococca hookeriana <i>a winter box</i>	S
Sarcococca hookeriana var. digyna <i>a winter box</i>	S
Sarcococca hookeriana var. humilis <i>a winter box</i>	S
Viburnum tinus <i>laurustinus</i>	S

SPRING

MAR – MAY

Acer campestre <i>native plant – field maple</i>	S or T
Acer platanoides <i>Norway maple</i>	T
Acer pseudoplatanus <i>sycamore</i>	T
Acer saccharum <i>sugar maple</i>	T
Aesculus hippocastanum <i>horse chestnut</i>	T
Ajuga reptans <i>native plant – bugle</i>	H
Arabis alpina <i>subsp caucasica arabis</i>	H
Armeria juniperifolia <i>juniper-leaved thrift</i>	H
Aubrieta deltoidea <i>aubretia</i>	H
Aurinia saxatilis <i>gold-dust alyssum</i>	H

SPRING (cont.)

Berberis darwinii <i>Darwin's barberry</i>	S
Berberis thunbergii <i>Japanese barberry</i>	S
Bergenia spp and cultivars <i>elephant ear</i>	H
Buxus sempervirens <i>native plant – box</i>	S
Caltha palustris <i>native plant – marsh marigold</i>	H
Cercis siliquastrum <i>Judas tree</i>	T
Chaenomeles japonica <i>a Japanese quince</i>	S
Chaenomeles speciosa <i>a Japanese quince</i>	S
Chaenomeles x superba <i>a Japanese quince</i>	S
Cornus mas <i>cornelian cherry</i>	S
Cotoneaster conspicuus <i>Tibetan cotoneaster</i>	S
Crataegus monogyna <i>native plant – hawthorn</i>	S or T
Crocus spp & cultivars <i>crocus (various)</i>	B
Doronicum x excelsum <i>leopard's bane</i>	H
Enkianthus campanulatus <i>red vein enkianthus</i>	S
Erysimum cheiri <i>wallflower</i>	BI
Erica carnea <i>a heath</i>	S
Erica x darleyensis <i>a heath</i>	S
Erysimum 'Bredon' <i>a perennial wallflower</i>	H
Euphorbia amygdaloides <i>wood spurge</i>	H
Euphorbia amygdaloides var. robbiae <i>Mrs Robb's bonnet</i>	H
Euphorbia characias <i>Mediterranean spurge</i>	H
Euphorbia cyparissias <i>Cypress spurge</i>	H
Euphorbia nicaeensis <i>a spurge</i>	H
Euphorbia polychroma <i>many coloured spurge</i>	H
Geranium phaeum <i>dusky cranesbill</i>	H
Geum rivale <i>native plant – water avens</i>	H
Hebe spp & cultivars <i>hebe</i>	S
Helleborus x hybridus <i>hybrid lenten rose</i>	H
Iberis saxatilis <i>a candytuft</i>	H
Iberis sempervirens <i>perennial candytuft</i>	H
Ilex aquifolium <i>native plant – holly</i>	T

KEY

T = tree; S = shrub; C = climber; B = bulbs and corms; A = annual; Bi = biennial; H = herbaceous perennial



RHS PERFECT FOR POLLINATORS PLANT LIST

SPRING (cont.)

Lamium maculatum <i>spotted dead nettle</i>	H
Lunaria annua <i>honesty</i>	Bi
Mahonia aquifolium <i>Oregon grape</i>	S
Malus baccata <i>a crab apple</i>	T
Malus domestica <i>edible apples</i>	T
Malus floribunda <i>Japanese crab apple</i>	T
Malus hupehensis <i>hupeh crab apple</i>	T
Malus 'John Downie' <i>a crab apple</i>	T
Malus sargentii <i>a crab apple</i>	T
Mespilus germanica <i>medlar</i>	T
Muscari armeniacum <i>Armenian grape hyacinth</i>	B
Ornithogalum umbellatum <i>star of Bethlehem</i>	B
Pieris formosa	S
Pieris japonica	S
Primula vulgaris <i>native plant – primrose</i>	H
Prunus 'Accolade' <i>a flowering cherry</i>	T
Prunus avium <i>native plant – wild and edible cherries</i>	T
Prunus domestica <i>edible plums and gages</i>	T
Prunus dulcis <i>almond</i>	T
Prunus incisa 'Kojo-no-mai' <i>a flowering cherry</i>	S
Prunus insititia <i>damson</i>	T
Prunus laurocerasus <i>cherry laurel</i>	S
Prunus mume <i>a flowering cherry</i>	T
Prunus padus <i>native plant – bird cherry</i>	T
Prunus pendula var. ascendens 'Rosea' <i>a flowering cherry</i>	T
Prunus persica <i>peach/nectarine</i>	T
Prunus spinosa <i>native plant – blackthorn/sloe</i>	S
Prunus tenella <i>a flowering cherry</i>	S
Prunus x yedoensis <i>a flowering cherry</i>	T
Pulmonaria angustifolia <i>narrow-leaved lungwort</i>	H
Pulmonaria saccharata <i>a lungwort</i>	H
Pyrus communis <i>pear</i>	T
Ribes nigrum <i>blackcurrant</i>	S
Ribes rubrum <i>red/white currant</i>	S
Ribes sanguineum <i>flowering currant</i>	S
Salix caprea <i>native plant – goat willow (male form, not female)</i>	S or T
Salix hastata 'Wehrhahnii' <i>halberd willow</i>	S
Salix lanata <i>native plant – woolly willow (male form, not female)</i>	S

SPRING (cont.)

Skimmia japonica	S
Smyrniolum olusatrum <i>alexanders</i>	Bi
Stachyurus chinensis	S
Stachyurus praecox	S
Taraxacum officinale <i>native plant – dandelion</i>	H
Vaccinium corymbosum <i>blueberry</i>	S

SUMMER

JUNE – AUG

Achillea filipendulina <i>a yarrow</i>	H
Achillea millefolium <i>native plant – common yarrow</i>	H
Actaea japonica <i>a baneberry</i>	H
Aesculus indica <i>Indian horse chestnut – resistant to leaf-mining moth</i>	T
Aesculus parviflora <i>buckeye</i>	S
Agastache 'Blue Fortune' <i>giant hyssop</i>	H
Agastache foeniculum	H
Agastache rugosa	H
Ageratum houstonianum <i>floss flower</i>	A
Alcea rosea <i>hollyhock – single-flowered forms</i>	Bi
Allium aflatumense <i>an ornamental onion</i>	B
Allium cristophii <i>star of Persia onion</i>	B
Allium giganteum <i>giant onion</i>	B
Allium nutans <i>an ornamental onion</i>	B
Allium schoenoprasum <i>chives</i>	B
Amberboa moschata <i>sweet sultan</i>	A
Amsonia tabernaemontana	H
Anchusa azurea	A
Anchusa capensis	A
Angelica archangelica <i>angelica</i>	Bi
Angelica gigas <i>giant angelica</i>	Bi
Angelica sylvestris <i>native plant – wild angelica</i>	Bi
Anthemis tinctoria <i>golden marguerite</i>	H
Antirrhinum majus <i>snapdragon</i>	A or H
Aquilegia spp. <i>columbine</i>	H
Argemone platyceras <i>crested poppy</i>	A or H
Armeria maritima <i>native plant – thrift</i>	H
Aruncus dioicus <i>goatsbeard</i>	H
Asparagus officinalis <i>vegetable asparagus</i>	H

KEY

T = tree; S = shrub; C = climber; B = bulbs and corms; A = annual; Bi = biennial; H = herbaceous perennial



RHS PERFECT FOR POLLINATORS PLANT LIST

SUMMER (cont.)

Astrantia major	H
Borago officinalis <i>borage</i>	A
Brachyglottis Dunedin Group 'Sunshine'	S
Brachyglottis monroi <i>shrubby ragwort</i>	S
Buddleja davidii <i>butterfly bush</i>	S
Buddleja globosa <i>orange ball tree</i>	S
Bupthalmum salicifolium <i>yellow ox-eye</i>	H
Bupleurum fruticosum <i>shrubby hare's ear</i>	S
Calamintha nepeta subsp. Nepeta <i>catmint</i>	H
Calendula officinalis <i>marigold - single-flowered forms</i>	A
Callicarpa bodinieri var. giraldii <i>beauty berry</i>	S
Callistephus chinensis <i>China aster - open-centred forms</i>	A
Calluna vulgaris <i>native plant - ling heather</i>	S
Campanula carpatica <i>tussock bellflower</i>	H
Campanula glomerata <i>native plant - clustered bell flower</i>	H
Campanula lactiflora <i>milky bellflower</i>	H
Campanula latifolia <i>giant bellflower</i>	H
Campanula medium <i>Canterbury bells</i>	Bi
Campanula persicifolia <i>peach-leaved bellflower</i>	H
Campsis radicans <i>trumpet vine</i>	C
Caryopteris × clandonensis	S
Catalpa bignonioides <i>Indian bean tree</i>	T
Catananche caerulea <i>cupid's dart</i>	H
Centaurea atropurpurea	H
Centaurea cyanus <i>native plant - cornflower</i>	A
Centaurea dealbata <i>mealy centaury</i>	H
Centaurea macrocephala <i>giant knapweed</i>	H
Centaurea montana <i>perennial cornflower</i>	H
Centaurea nigra <i>native plant - hard head knapweed</i>	H
Centaurea scabiosa <i>native plant - great knapweed</i>	H
Centranthus ruber <i>red valerian</i>	H
Centratherum intermedium <i>Brazilian button</i>	A
Cerintho major 'Purpurascens' <i>honeywort</i>	A
Cirsium rivulare 'Atropurpureum' <i>plume thistle</i>	H
Clarkia elegans <i>single-flowered forms</i>	A
Clematis vitalba <i>native plant - old man's beard/traveller's joy</i>	C
Cleome hassleriana <i>spider flower</i>	A
Consolida ambigua <i>larkspur</i>	A
Convolvulus tricolor <i>annual bindweed</i>	C/A

SUMMER (cont.)

Coreopsis lanceolata	H
Coreopsis tinctoria	A
Coreopsis verticillata	H
Cornus alba <i>red-barked dogwood</i>	S
Cosmos bipinnatus <i>cosmea</i>	A
Cosmos sulphureus <i>yellow cosmos</i>	A
Cotoneaster horizontalis <i>herringbone cotoneaster</i>	S
Cotoneaster microphyllus <i>small-leaved cotoneaster</i>	S
Crambe cordifolia <i>greater sea kale</i>	H
Crataegus monogyna <i>native plant - hawthorn</i>	S or T
Cucurbita pepo <i>marrow/courgette</i>	A
Cuphea ignea <i>cigar flower</i>	A
Cynara cardunculus inc. Scolymus group <i>globe artichoke and cardoon</i>	H
Cynoglossum amabile <i>hound's tongue</i>	H
Dahlia <i>dahlia - open-centred flower forms, eg 'amazone', 'moonfire'</i>	H
Delosperma floribundum	H
Delphinium elatum <i>delphinium - single-flowered cultivars</i>	H
Dianthus barbatus <i>sweet William</i>	Bi
Dictamnus albus <i>burning bush</i>	H
Digitalis purpurea <i>native plant - foxglove</i>	Bi
Dipsacus fullonum <i>native plant - teasel</i>	Bi
Echinacea purpurea <i>coneflower</i>	H
Echinops bannaticus <i>a globe thistle</i>	H
Echinops ritro <i>a globe thistle</i>	H
Echinops setifer <i>a globe thistle</i>	H
Echium vulgare <i>native plant - viper's bugloss</i>	A
Elaeagnus angustifolia <i>oleaster</i>	S
Erica cinerea <i>native plant - bell heather</i>	S
Erica erigena <i>a heath</i>	S
Erica vagans <i>native plant - cornish heath</i>	S
Erigeron spp. and hybrids <i>fleabane</i>	H
Eriophyllum lanatum <i>golden yarrow</i>	H
Eryngium × tripartitum <i>a sea holly</i>	H
Eryngium alpinum <i>a sea holly</i>	H
Eryngium giganteum <i>a sea holly/ Miss Willmott's ghost</i>	Bi
Eryngium planum <i>a sea holly</i>	H
Erysimum × allionii <i>Siberian wallflower</i>	H

KEY

T = tree; S = shrub; C = climber; B = bulbs and corms; A = annual; Bi = biennial; H = herbaceous perennial



RHS PERFECT FOR POLLINATORS PLANT LIST

SUMMER (cont.)

Erysimum 'Bowles's Mauve' <i>a perennial wallflower</i>	S
Escallonia cultivars	S
Eschscholzia californica <i>Californian poppy</i>	A
Eupatorium cannabinum <i>native plant – hemp agrimony</i>	H
Eupatorium maculatum <i>Joe-pye weed</i>	H
Euphorbia cornigera <i>horned spurge</i>	H
Euphorbia sarawshchanica <i>a spurge</i>	H
Ferula communis <i>giant fennel</i>	H
Foeniculum vulgare <i>fennel</i>	H
Fragaria × ananassa <i>strawberry</i>	H
Fuchsia cultivars	
<i>fuchsias – single-flowered garden cultivars</i>	S
Fuchsia magellanica <i>a hardy fuchsia</i>	S
Gaillardia × grandiflora <i>blanket flower</i>	H
Gaura lindheimeri	H
Geranium pratense <i>native plant – meadow cranesbill</i>	H
Geranium ROZANNE = 'Gerwat' <i>a hardy geranium</i>	H
Geum 'Borisii' <i>a geum</i>	H
Gilia capitata <i>Queen Anne's thimbles</i>	A
Glebionis segetum <i>native plant – corn marigold</i>	A
Gypsophila elegans <i>annual baby's breath</i>	A
Hebe spp. and cultivars	S
Helenium 'Moerheim Beauty'	H
Helenium 'Sahin's Early Flowerer'	H
Helenium 'Sonnenwunder'	H
Helianthemum cultivars <i>rock rose</i>	S
Helianthus annuus	
<i>sunflower – single-flowered forms; avoid pollen-free cultivars</i>	A
Helianthus debilis	A
Heliopsis helianthoides <i>North American ox-eye</i>	H
Heliotropium arborescens <i>cherry pie/ Heliotrope</i>	A
Heracleum sphondylium <i>native plant – hogweed</i>	Bi
Hesperis matronalis <i>sweet rocket/dame's violet</i>	H
Hydrangea anomala subsp. petiolaris	
<i>climbing hydrangea</i>	C
Hydrangea paniculata <i>cultivars with many fertile flowers eg 'Kyushu', 'Big Ben', 'Floribunda', 'Brussels Lace'</i>	S
Hyssopus officinalis <i>hyssop</i>	S
Iberis amara <i>candytuft</i>	A
Ilex aquifolium <i>native plant – holly</i>	T
Inula ensifolia	H

SUMMER (cont.)

Inula hookeri	H
Inula magnifica	H
Jasminum officinale <i>common jasmine</i>	C
Kalmia latifolia <i>calico bush</i>	S
Knautia arvensis <i>native plant – field scabious</i>	H
Knautia macedonica <i>Macedonian scabious</i>	H
Koelreuteria paniculata <i>golden-rain tree</i>	T
Lathyrus latifolius <i>perennial sweet pea</i>	H
Laurus nobilis <i>bay tree</i>	S
Lavandula angustifolia <i>English lavender</i>	S
Lavandula × intermedia <i>a lavender/ Lavandin</i>	S
Lavandula stoechas <i>French lavender</i>	S
Lavatera olbia <i>a shrubby mallow</i>	S
Lavatera trimestris <i>annual mallow</i>	A
Leucanthemum × superbum	
<i>shasta daisy – open-centred flower forms</i>	H
Leucanthemum vulgare <i>native plant – ox-eye daisy</i>	H
Liatris spicata <i>gay feather</i>	H
Ligustrum ovalifolium <i>a privet</i>	S
Ligustrum sinense <i>a privet</i>	S
Limnanthes douglasii <i>poached egg plant</i>	A
Limonium latifolium <i>a sea lavender</i>	H
Linaria maroccana <i>Moroccan toadflax</i>	A
Linaria purpurea <i>purple toadflax</i>	H
Lobularia maritima <i>sweet alyssum</i>	A
Lonicera periclymenum	
<i>native plant – common honeysuckle</i>	C
Lychnis coronaria <i>rose campion</i>	Bi or H
Lychnis flos-cuculi <i>native plant – ragged robin</i>	H
Lysimachia vulgaris <i>native plant – yellow loosestrife</i>	H
Lythrum salicaria <i>native plant – purple loosestrife</i>	H
Lythrum virgatum 'Dropmore Purple' <i>a loosestrife</i>	H
Malope trifida <i>annual mallow</i>	A
Malva moschata <i>native plant – musk mallow</i>	H
Matthiola incana <i>stock</i>	Bi
Mentha aquatica <i>native plant – water mint</i>	H
Mentha spicata <i>garden mint</i>	H
Monarda didyma <i>bergamot</i>	H
Myosotis spp <i>forget-me-not</i>	Bi
Nemophila menziesii <i>baby blue-eyes</i>	A

KEY

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RHS PERFECT FOR POLLINATORS PLANT LIST

SUMMER (cont.)

Nepeta × faassenii <i>a catmint</i>	H
Nicotiana alata <i>a tobacco</i>	A
Nicotiana langsdorfii <i>a tobacco</i>	A
Nigella damascena <i>love-in-a-mist</i>	A
Nigella hispanica <i>Spanish fennel flower</i>	A
Oenothera biennis <i>evening primrose</i>	Bi
Olearia x haastii <i>daisy bush</i>	S
Onopordum acanthium <i>giant thistle</i>	Bi
Origanum ‘Rosenkuppel’ <i>majoram</i>	H
Origanum vulgare <i>native plant – majoram</i>	H
Paeonia species and cultivars <i>peony – single-flowered cultivars</i>	H
Papaver orientale <i>oriental poppy</i>	H
Papaver rhoeas <i>native plant – field poppy</i>	A
Parthenocissus quinquefolia <i>Virginia creeper</i>	C
Parthenocissus tricuspidata <i>Boston ivy</i>	C
Penstemon cultivars	T
Perovskia atriplicifolia	S
Persicaria amplexicaulis <i>red bistort</i>	H
Persicaria bistorta <i>native plant – common bistort</i>	H
Phacelia campanularia <i>Californian bluebell</i>	A
Phacelia tanacetifolia	A
Phaseolus coccineus <i>runner bean</i>	A
Phlomis fruticosa <i>Jerusalem sage</i>	S
Phlomis russeliana <i>Turkish sage</i>	S
Phlomis tuberosa	S
Phlox paniculata <i>perennial phlox</i>	H
Photinia davidiana <i>stranvaesia</i>	S
Phuopsis stylosa <i>caucasian crosswort</i>	H
Pileostegia viburnoides <i>climbing hydrangea</i>	C
Polemonium caeruleum <i>native plant – Jacob’s ladder</i>	H
Potentilla atosanguinea	H
Potentilla fruticosa <i>native plant – a shrubby potentilla</i>	S
Potentilla ‘Gibson’s Scarlet’	H
Potentilla nepalensis	H
Potentilla recta <i>sulphur cinquefoil</i>	H
Prostanthera cuneata <i>alpine mint bush</i>	S
Ptelea trifoliata <i>hop tree</i>	S
Pyracantha coccinea <i>firethorn</i>	S
Reseda odorata <i>mignonette</i>	A

SUMMER (cont.)

Ridolfia segetum <i>false fennel</i>	A
Robinia pseudoacacia <i>black locust/false acacia</i>	T
Rosa canina <i>native plant – dog rose</i>	S
Rosa rubiginosa <i>native plant – sweet briar rose</i>	S
Rosa rugosa <i>hedgehog rose</i>	S
Rosmarinus officinalis <i>rosemary</i>	S
Rubus fruticosus <i>native plant – edible blackberry</i>	S
Rubus idaeus <i>raspberry</i>	S
Rudbeckia fulgida	H
Rudbeckia hirta	A
Rudbeckia laciniata <i>open-centred flower forms</i>	H
Salvia farinacea	A
Salvia horminum <i>annual clary</i>	A
Salvia nemorosa <i>a sage</i>	H
Salvia officinalis <i>common sage</i>	H
Salvia patens <i>gentian sage</i>	H
Salvia sclarea var. turkestanica	H
Salvia x superba <i>hybrid sage</i>	H
Salvia x sylvestris <i>wood sage</i>	H
Salvia verticillata ‘Purple Rain’ <i>whorled clary</i>	H
Sanvitalia procumbens <i>creeping zinnia</i>	A
Scabiosa atropurpurea <i>annual scabious</i>	A
Scabiosa caucasica <i>scabious</i>	H
Scabiosa columbaria <i>native plant – small scabious</i>	H
Sedum spectabile <i>ice plant</i>	H
Sedum telephium <i>native plant – orpine</i>	H
Sidalcea malviflora <i>checkerbloom</i>	H
Solidago spp. and cultivars <i>golden rod</i>	H
Sorbus aria <i>native plant – whitebeam</i>	T
Sorbus aucuparia <i>native plant – mountain ash/rowan</i>	T
Spiraea japonica <i>Japanese spirea</i>	S
Stachys byzantina <i>lamb’s ears</i>	H
Stachys macrantha	H
Stokesia laevis	H
Symphoricarpos albus <i>snowberry</i>	S
Tagetes patula <i>French marigold</i>	A
Tamarix ramosissima <i>tamarisk</i>	S
Tanacetum coccineum <i>pyrethrum</i>	H
Tanacetum vulgare <i>native plant – tansy</i>	H
Telekia speciosa	H

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RHS PERFECT FOR POLLINATORS PLANT LIST

SUMMER (cont.)

Tetradium daniellii <i>bee-bee tree</i>	T
Teucrium chamaedrys	H
Thymus serpyllum and cultivars <i>native plant – wild thyme</i>	S
Thymus spp. and cultivars <i>thyme</i>	S
Tilia × europaea <i>common lime</i>	T
Tilia cordata <i>native plant – small-leaved lime</i>	T
Tilia maximowicziana <i>a lime tree</i>	T
Tilia oliveri <i>a lime tree</i>	T
Tilia platyphyllos <i>native plant – large-leaved lime</i>	T
Tilia tomentosa <i>a lime tree</i>	T
Tithonia rotundifolia <i>Mexican sunflower</i>	A
Trachymene coerulea <i>blue lace flower</i>	A
Tropaeolum majus <i>nasturtium</i>	A
Verbascum olympicum <i>a mullein</i>	Bi
Verbascum thapsus <i>native plant – common mullein</i>	Bi
Verbena × hybrida	A
Verbena bonariensis	H
Verbena rigida	A
Veronica longifolia	H
Veronicastrum virginicum	H
Viburnum lantana <i>native plant – wayfaring tree</i>	S
Viburnum opulus <i>native plant – guelder rose</i>	S
Vicia faba <i>broad bean</i>	A
Weigela florida	S
Zauschneria californica <i>Californian fuchsia</i>	S
Zinnia elegans <i>zinnia – open-centred forms</i>	A

AUTUMN

SEPT – OCT

Aconitum carmichaeli <i>a monkshood</i>	H
Actaea simplex <i>bugbane</i>	H
Anemone hupehensis <i>a Japanese anemone</i>	H
Anemone × hybrida <i>a Japanese anemone</i>	H
Arbutus unedo <i>strawberry tree</i>	S or T
Aster amellus <i>a perennial aster</i>	H
Aster ericoides f. prostratus <i>a perennial aster</i>	H
Aster koraiensis <i>a perennial aster</i>	H
Aster lateriflorus var horizontalis <i>a perennial aster</i>	H
Aster novae-angliae <i>a michaelmas daisy</i>	H
Aster novi-belgii <i>a michaelmas daisy</i>	H
Aster oolentangiensis <i>a perennial aster</i>	H
Aster thomsoni ‘Nanus’ <i>a perennial aster</i>	H
Aster turbinellus <i>a perennial aster</i>	H
Aster × frikartii ‘Mönch’ <i>a perennial aster</i>	H
Campanula poscharskyana <i>trailing bellflower</i>	H
Ceratostigma plumbaginoides <i>blue-flowered leadwort</i>	H
Chrysanthemum cultivars <i>chrysanthemum – open-centred flower forms</i>	H
Clematis heracleifolia <i>a clematis</i>	C
Colchicum spp. <i>autumn crocus</i>	B
Crocus speciosus <i>an autumn-flowering crocus</i>	B
Dahlia cultivars <i>dahlia – single-flowered forms</i>	H
Elaeagnus pungens	S
Elaeagnus × ebbingei	S
Fatsia japonica <i>Japanese aralia</i>	S
Hedera colchica <i>Persian ivy</i>	C
Hedera helix <i>native plant – common ivy</i>	C
Hedera helix ‘Arborescens’ <i>common ivy</i>	C
Helianthus × laetiflorus <i>a sunflower</i>	H
Leucanthemella serotina <i>autumn ox-eye</i>	H
Machaeranthera tanacetifolia <i>tansy-leaved aster</i>	A
Salvia leucantha <i>Mexican bush</i>	H
Salvia ‘Mystic Spires Blue’	H
Tilia henryana <i>a lime tree – one of the last to flower</i>	T

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RHS PERFECT FOR POLLINATORS WILDFLOWER LIST

SHORT GRASS, UP TO 15CMS

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

HEDGES, SHRUB BORDERS AND WOODLAND EDGE

<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> common 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

HEDGES, SHRUB BORDERS AND WOODLAND EDGE (cont.)

<i>Campanula trachelium</i> nettle-leaved bellflower	H
<i>Clematis vitalba</i> old man's beard/traveller's joy	C
<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

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.

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RHS PERFECT FOR POLLINATORS WILDFLOWER LIST

HEDGES, SHRUB BORDERS AND WOODLAND EDGE (cont.)

Ranunculus ficaria <i>lesser celandine</i>	H
Rhamnus catharticus <i>Purging buckthorn</i>	S
Rosa canina <i>Dog rose</i>	S
Rosa rubiginosa <i>sweet briar</i>	S
Rubus fruticosus <i>blackberry</i>	S
Salix atrocinerea <i>grey willow</i>	S - male forms best
Salix caprea <i>goat willow</i>	S - male forms best
Sanicula europaea <i>sanicle</i>	H
Sedum telephium <i>orpine</i>	H
Silene dioica <i>red campion</i>	H
Silene latifolia subsp. <i>alba</i> <i>white campion</i>	H
Smyrniolus olusatrum <i>alexanders</i>	Bi
Sorbus aria <i>common whitebeam</i>	T
Sorbus aucuparia <i>rowan/mountain ash</i>	T
Sorbus torminalis <i>wild service tree</i>	T
Stachys officinalis <i>betony</i>	H
Stellaria holostea <i>greater stitchwort</i>	H
Symphytum officinale <i>common comfrey</i>	H
Teucrium scorodonia <i>wood sage</i>	H
Tilia cordata <i>small-leaved lime</i>	T
Viburnum lantana <i>common wayfaring tree</i>	S
Viburnum opulus <i>guelder rose</i>	S
Vicia cracca <i>common tufted vetch</i>	H
Vicia sativa <i>common vetch</i>	H

DISTURBED GROUND

Agrostemma githago <i>corncockle</i>	A
Anchusa arvensis <i>bugloss</i>	A
Anthemis arvensis <i>corn chamomile</i>	A
Anthemis cotula <i>stinking chamomile</i>	A
Centaurea cyanus <i>cornflower</i>	A
Cichorium intybus <i>chicory</i>	H
Dipsacus fullonum <i>common teasel</i>	Bi
Echium vulgare <i>viper's bugloss</i>	Bi
Glebionis segetum <i>corn marigold</i>	A
Iberis amara <i>wild candytuft</i>	A
Lamium amplexicaule <i>Henbit deadnettle</i>	A
Matricaria recutita <i>scented mayweed</i>	A

DISTURBED GROUND (cont.)

Mentha arvensis <i>corn mint</i>	H
Myosotis arvensis <i>field forget-me-not</i>	A/H
Myosotis arvensis <i>Common forget-me-not</i>	A
Onopordum acanthium <i>cotton thistle</i>	Bi
Papaver dubium <i>long-headed poppy</i>	A
Papaver rhoeas <i>common poppy</i>	A
Sinapis arvensis <i>charlock</i>	A
Sonchus arvensis <i>perennial sowthistle</i>	H
Tussilago farfara <i>coltsfoot</i>	H
Verbascum thapsus <i>great mullein</i>	Bi

FLOWER BEDS

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

LONG GRASS, ABOVE 50CMS

Arctium minus <i>lesser burdock</i>	Bi
Carduus crispus <i>welted thistle</i>	Bi
Carduus nutans <i>musk thistle</i>	Bi
Chamaenerion angustifolium <i>rosebay willowherb</i>	H
Cirsium arvense <i>creeping thistle</i>	H
Cirsium vulgare <i>spear thistle</i>	Bi
Conopodium majus <i>pignut</i>	H
Cynoglossum officinale <i>hound's tongue</i>	H
Daucus carota <i>wild carrot</i>	Bi
Geranium pratense <i>meadow cranesbill</i>	H
Heracleum sphondylium <i>hogweed</i>	Bi
Hypericum perforatum <i>perforate St John's wort</i>	H
Knautia arvensis <i>field scabious</i>	H
Lathyrus pratensis <i>meadow vetchling</i>	H
Pastinaca sativa <i>wild parsnip</i>	Bi
Succisa pratensis <i>devil's bit scabious</i>	H
Tanacetum vulgare <i>tansy</i>	H

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RHS PERFECT FOR POLLINATORS WILDFLOWER LIST

LONG GRASS, ABOVE 50CMS (cont.)

Thalictrum flavum meadow rue	H
Tragopogon pratensis goat's beard	Bi
Verbascum nigrum dark mullein	Bi/H

MEDIUM HEIGHT GRASS, UP TO 50CMS

Achillea millefolium common yarrow	H
Achillea ptarmica sneezewort	H
Agrimonia eupatoria agrimony	H
Anthyllis vulneraria kidney vetch	H
Armeria maritima thrift/sea pink	H
Blackstonia perfoliata yellowwort	A
Campanula glomerata clustered bellflower	H
Centaurea nigra common knapweed/hardheads	H
Centaurea scabiosa greater knapweed	H
Centaurium erythraea common centaury	Bi
Echium vulgare viper's bugloss	Bi
Erigeron acris blue fleabane	A/H
Filipendula vulgaris dropwort	H
Helianthemum nummularium common rockrose	H
Hypochaeris radicata cat's ear	H
Inula conyzae ploughman's spikenard	H
Leontodon autumnalis autumn hawkbit	H
Leontodon hispidus rough hawkbit	H
Leucanthemum vulgare ox-eye daisy	H
Linaria vulgaris common toadflax	H
Malva moschata musk mallow	H
Ononis repens common restharrow	H
Origanum vulgare wild marjoram	H
Pilosella officinarum mouse-ear hawkweed	H
Ranunculus acris meadow buttercup	H
Ranunculus bulbosus bulbous buttercup	H
Reseda lutea wild mignonette	Bi/H
Rhinanthus minor yellow rattle	A
Scabiosa columbaria small scabious	H
Silene vulgaris bladder campion	H
Solidago virgaurea goldenrod	H

PONDS, POND MARGINS AND WET SOILS

Alisma plantago-aquatica water plantain	H
Angelica sylvestris wild angelica	Bi
Butomus umbellatus flowering rush	H
Caltha palustris marsh marigold	H
Cardamine pratensis cuckoo flower/lady's smock	H
Cirsium dissectum meadow thistle	H
Epilobium hirsutum great willowherb	H
Eupatorium cannabinum hemp agrimony	H
Filipendula ulmaria meadowsweet	H
Galium palustre marsh bedstraw	H
Geum rivale water avens	H
Hypericum tetrapterum square-stalked St John's wort	H
Iris pseudacorus yellow iris	H
Lotus pedunculatus greater bird's-foot trefoil	H
Lychnis flos-cuculi ragged robin	H
Lycopus europaeus gypsywort	H
Lysimachia nummularia creeping Jenny	H
Lysimachia vulgaris yellow loosestrife	H
Lythrum salicaria purple loosestrife	H
Mentha aquatica water mint	H
Menyanthes trifoliata bogbean	H
Myosotis scorpioides water forget-me-not	H
Nasturtium officinale common watercress	H
Nuphar lutea yellow water lily	H
Nymphaea alba white water lily	H
Oenanthe aquatica fine-leaved water dropwort	A/Bi
Oenanthe crocata hemlock water dropwort	H
Persicaria amphibia amphibious bistort	H
Persicaria bistorta common bistort	H
Polemonium caeruleum Jacob's ladder	H
Pulicaria dysenterica common fleabane	H
Ranunculus aquatilis common water crowfoot	A/H
Ranunculus flammula lesser spearwort	H
Ranunculus fluitans river water crowfoot	H
Ranunculus lingua greater spearwort	H
Ranunculus sceleratus celery-leaved buttercup	A
Sagittaria sagittifolia arrowhead	H
Sanguisorba officinalis great burnet	H
Scrophularia auriculata water figwort	H

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RHS PERFECT FOR POLLINATORS WILDFLOWER LIST

PONDS, POND MARGINS AND WET SOILS (cont.)

Scutellaria galericulata <i>common skullcap</i>	H
Stachys palustris <i>marsh woundwort</i>	H
Valeriana officinalis <i>common valerian</i>	H
Veronica beccabunga <i>brooklime</i>	H

SHINGLE/GRAVEL GARDEN

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

KEY

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