



Preliminary Ecological Appraisal

**Land at Kent Gate Way,  
Croydon**

For

**Croydon London Borough  
Council**

Project No.: JCLB105/001

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Figure 1 Site Location, Study Area and Desk Study Results

Figure 2 Phase 1 Habitat Survey Map

## 1. Summary and Main Recommendations

### 1.1 Summary

**1.1.1** Croydon London Borough Council's Local Plan has been submitted to the Planning Inspectorate for Examination in Public. As part of this process Thomson Ecology was commissioned on 16<sup>th</sup> June 2017 to produce a Preliminary Ecological Appraisal of land off Kent Gate Way, Croydon, hereafter referred to as 'the site'. A desk study and extended Phase 1 habitat survey were undertaken to gather baseline ecological data for the site and surrounding area. Thomson Ecology was further commissioned to assess the site against criteria for the selection of Sites of Importance for Nature Conservation (SINC) in London as defined by the London Wildlife Site Board (2013).

**1.1.2** The main findings of the desk study were:

- The site is within 1km of three non-statutory designated Sites of Importance for Nature Conservation;
- Three ancient woodlands occur within 1km of the site boundary;
- Four types of priority habitats occur within 1km of the site; and
- Eighteen protected species or species of conservation concern have been recorded within 1km of the site.

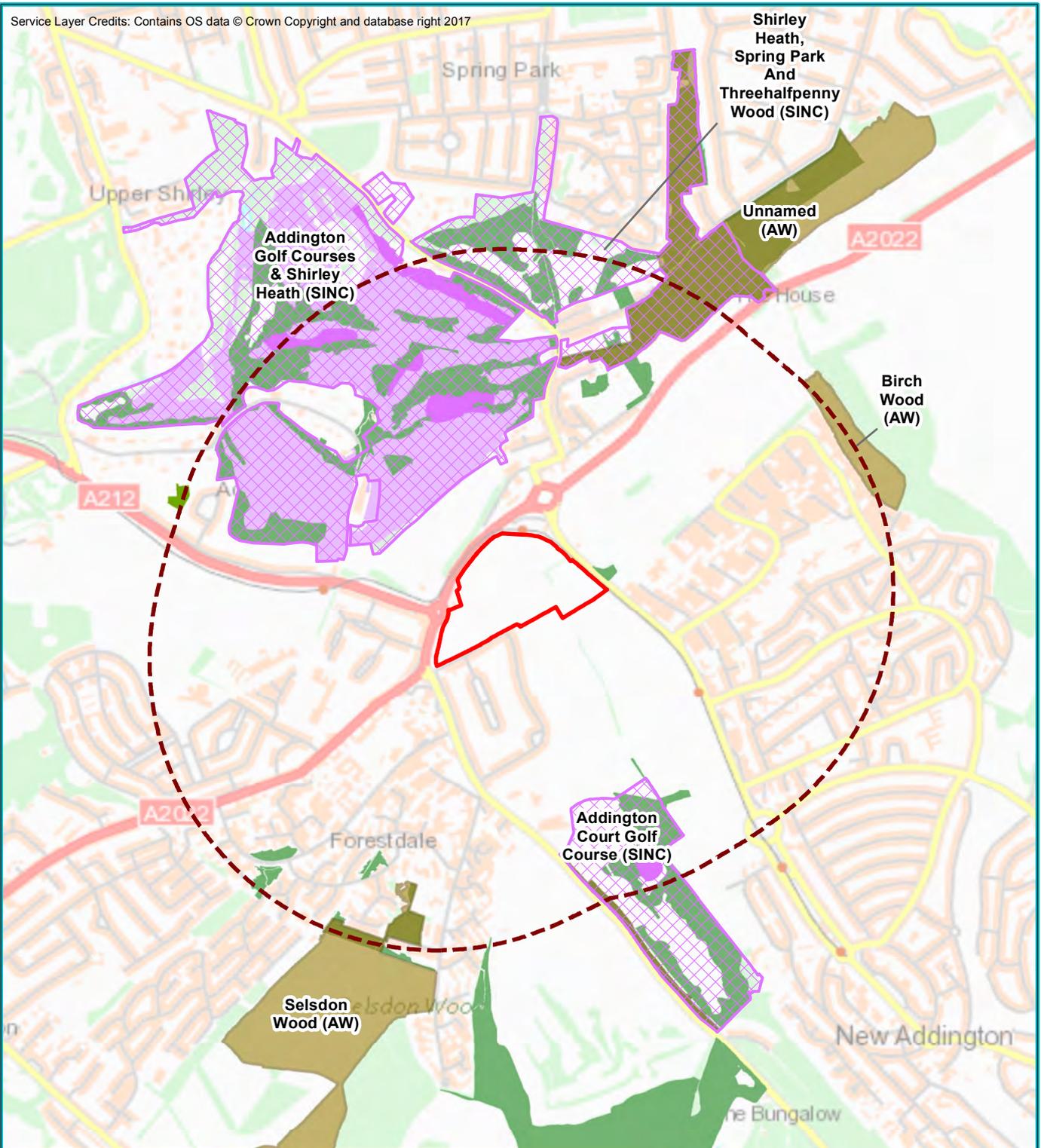
**1.1.3** The main findings of the field survey were:

- The site was found to support dense scrub, unimproved neutral grassland with scattered scrub; good semi-improved neutral grassland, poor semi-improved grassland, tall ruderal, species-poor hedge, buildings and bare ground;
- Two of these habitats are listed as Habitats of Principal Importance (HPI) under Section 41 of the Natural Environment and Research Council Act 2006: unimproved neutral grassland (which falls under the Lowland Hay Meadow denomination) and hedgerows; and
- One habitat (good semi-improved neutral grassland) could most likely be restored into a HPI (Lowland Hay Meadow) if an appropriate management regime was implemented.
- One species recorded within the site (marbled white) is a Local Species of Conservation Concern.

**1.1.4** Habitat is present on site that could support bats, reptiles, breeding birds, wintering birds and invertebrate species that are protected and/or of conservation concern.

**1.1.5** With the exception of Field 1 (see Figure 2), the site was found to meet several criteria for SINC selection in London. Consequently, it is recommended that it is offered SINC status.

**1.1.6** It is recommended that further specialist surveys are carried out to further assess the value of the site, including a National Vegetation Classification survey, invertebrate surveys and a rare plant survey.



Legend

Site of Importance for Nature Conservation (SINC)	<b>Priority Habitats</b>
Ancient Woodland (AW)	Deciduous woodland
Site Boundary	Good quality semi-improved grassland
1km Study Area	Lowland calcareous grassland
	Lowland heathland
	Traditional orchard

Site Grid Reference: 537,053 163,126



Filepath: S:\Guildford\Projects\JCLB105 - Kent Gateway\Mapping\Working\JCLB105\_Fig1\_SiteLocationDeskStudy\_DJ\_270617.mxd  
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Client	Croydon London Borough Council		Drawing Ref	JCLB105/23715/1	
Figure Number	1		Scale at A4	1:20,000	
Figure Title	Site Location, Study Area and Desk Study Results		Drawn	DJ	Checked
			Date	27/06/2017	Date

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## 2. Introduction

### 2.1 Background

**2.1.1** Croydon London Borough Council, as local planning authority for Croydon, has a duty to prepare a Local Plan for the area. On 3<sup>rd</sup> February 2017, the Council submitted the Croydon Local Plan: Strategic Policies - Partial Review (Proposed Submission) and the Croydon Local Plan: Detailed Policies and Proposals (CLPDPP) (Proposed Submission) to the Secretary of State for independent examination.

**2.1.2** Further information has been requested by the Planning Inspectorate in relation to land off Kent Gate Way, Croydon, hereafter referred to as 'the site' (see Figures 1 and 2). This information is required to inform the Examination in Public of Croydon London Borough Council's Local Plan.

### 2.2 The Brief and Objectives

**2.2.1** Croydon London Borough Council commissioned Thomson Ecology Ltd on 16<sup>th</sup> June 2017 to undertake a Preliminary Ecological Appraisal (PEA) of the site. The brief was to:

- Carry out an ecological desk study to obtain records of designated sites and protected species held by third parties;
- Undertake an extended Phase 1 habitat survey of the site, recording the main habitats present on site;
- Make an assessment of the potential of the site to support protected species or species of conservation concern;
- Provide a combined report giving the methods and results of the survey, an evaluation of likely conservation value and potential ecological constraints and opportunities; and
- Provide a digitised map of the survey results.

**2.2.2** Thomson Ecology Ltd was further commissioned on 7th July 2017 to amend the PEA report and include an assessment of the site against the criteria as defined by the London Wildlife Site Board (2013) for the selection of Sites of Importance for Nature Conservation (SINC) in London.

### 2.3 Limitations

**2.3.1** The species data collated during the desk study is mainly derived from records submitted by members of the public and *ad hoc* surveys undertaken by volunteers. Therefore, it should not be taken as a definitive list of the protected species and other species of conservation concern that occur in the local area.

**2.3.2** Access was not granted to the area of dense scrub and of species-poor semi-improved grassland with scattered scrub in the south-east of the survey area (labelled 'Field 7' on Figure 2). This area was surveyed from the adjacent fields further north.

**2.3.3** This report is based on the boundary shown on the MapInfo files 'Additional Sites of Nature Conservation Importance' provided by Dominick Mennie on 20<sup>th</sup> June 2017. Subsequent changes may result in a requirement to reassess the ecology of the site.

## **2.4** Surveyors

**2.4.1** The extended Phase 1 habitat survey was carried out by Arnaud Duranel MSc PhD MCIEEM.

## 3. Methodology

### 3.1 Desk Study

**3.1.1** A study area was defined as an area that encompassed the site and all land within 1 km of the perimeter of the site, see Figure 1. Records of designated sites and important species were then sought for the study area. The search for species was restricted to species recorded within the last ten years only.

**3.1.2** Sources of information were as follows:

- The Multi-Agency Geographical Information for the Countryside (MAGIC); and
- Greenspace Information for Greater London (GiGL).

**3.1.3** Requests for information were sent to GiGL on 22<sup>nd</sup> June 2017.

### 3.2 Field Survey

**3.2.1** A survey area was defined as an area that encompassed all land within the site boundary. The survey area is shown on Figure 2.

**3.2.2** A Phase 1 habitat survey (JNCC, 2010) was conducted throughout the survey area. Phase 1 habitat survey is a standard technique for rapidly obtaining baseline ecological information over a large area of land. It is primarily a mapping technique and uses a standard set of habitat definitions for classifying areas of land on the basis of the vegetation present. For this survey, the technique was modified (or extended) to provide more detail over a smaller area and give further consideration to fauna (Institute of Environmental Assessment, 1995). The standard habitat definitions were used with an additional category of coarse grassland for unmanaged, secondary grasslands that are species poor.

**3.2.3** The dominant and readily identified species of higher plant species from each habitat type within the survey area were recorded and their abundance was assessed on the DAFOR scale:

D	Dominant
A	Abundant
F	Frequent
O	Occasional
R	Rare

**3.2.4** These scores represent the abundance within the defined area only and do not reflect national or regional abundances. Plant species nomenclature follows Stace (2010).

**3.2.5** Target notes were made for any features which were too small to map or are of particular ecological interest.

**3.2.6** Incidental records of fauna were also made during the survey and the habitats identified were evaluated for their potential to support protected species and other species of conservation concern, including priority species. However, no specific faunal surveys were undertaken.

**3.2.7** The survey was conducted on 27<sup>th</sup> June 2017.

### 3.3 Site Evaluation

- 3.3.1** The site was assessed against the criteria defined by the London Wildlife Site Board (2013) for the selection of SINC in London.
- 3.3.2** The London Wildlife Site Board listed 17 criteria that should be used to facilitate a comparison of candidate SINC within a given search area: representation, habitat rarity, species rarity, habitat richness, species richness, size, presence of important populations of species, ancient character, recreatability, typical urban character, cultural or historic character, geographic position (with regard to areas of deficiency in accessible natural spaces), access, use, potential, aesthetic appeal, and geodiversity interest.
- 3.3.3** The value of the site with regard to each criterion was estimated semi-quantitatively in comparison to other SINC within Croydon Borough, and is therefore not an estimation of the absolute value of the site for nature conservation. A relative scale comprising three levels (low, moderate and high value) was used. It is based on a comparison of the site with existing SINC within Croydon Borough for each criterion, and corresponds to scores below, similar to and higher than the average score of existing SINC, respectively.

## 4. Results

### 4.1 Background

4.1.1 The contents of the results section are the factual results of the desk study and extended Phase 1 habitat survey. Excluded from this section is the assessment of the site to support protected species or species of conservation concern not recorded during the survey. Instead, potential further ecological issues are discussed in Section 6.

### 4.2 Desk Study

4.2.1 Response was received from the Greenspace Information for Greater London (GIGL) on 26<sup>th</sup> June 2017.

4.2.2 The results are summarised below and the locations of designated sites and priority habitats within 1km of the site are shown on Figure 1.

#### *Designated Sites*

4.2.3 There are no sites with a statutory designation of nature conservation within 1km of the site perimeter.

4.2.4 There are three non-statutory sites within 1km of the site boundary, all of which are Sites of Interest for Nature Conservation (SINCs). The location, area and distance of the designated sites from the site are shown in Table 1, and locations are shown in Figure 1.

**Table 1. Designated sites within 1km of site boundary**

Site Designation	Grid Reference	Area (ha)	Distance to site (km)	Description
<b>County and Local Sites (SINCs)</b>				
Shirley Heath, Spring Park and the Halfpenny Wood	TQ376 648	56.39	0.60	Diverse site with woodland, heathland, grassland and running water. Ancient broadleaf woodland supports locally rare plant species.
Addington Golf Courses and Shirley Heath	TQ363 643	113.73	0.23	One of the most extensive areas of heathland in London, broken up by grassland and woodland, providing habitat for a wide range of plants and animals.
Addington Court Golf Course	TQ375 624	25.73	0.63	A valuable grassland site with several old hedgerows.

### Ancient Woodland

- 4.2.5 A search for ancient woodland was undertaken using <http://www.magic.gov.uk/>. Three areas of ancient woodland were identified within 1km of the site, however this excludes ancient woodlands less than 2ha in size, so the dataset should not be taken as definitive.
- 4.2.6 The details of ancient woodland within 1km of the site are detailed in Table 2 below.

**Table 2. Ancient woodland within 1km of the site**

Ancient Woodland	Grid Reference	Area (ha)	Distance to site (km)
Birch Wood	TQ3822964051	4.62	0.96
Selsdon Wood	TQ3627261792	43.18	0.77
Unnamed	TQ3785664858	33.81	0.60

### Priority Habitats

- 4.2.7 Four types of priority habitats occur within 1km of the site boundary, including 96 parcels of deciduous woodland, one parcel of lowland calcareous grassland, 39 parcels of lowland heathland and one parcel of traditional orchard (see Table 3). In addition there are six parcels of good quality semi-improved grassland (not a priority habitat but mapped by Natural England as part of the same inventory).

**Table 3. Priority habitats within 2km of the site**

Priority Habitat Type	Number of Land Parcels	Nearest Parcel to Site (km)	Area(ha) of nearest parcel
Deciduous woodland	96	0.03	0.24
Lowland heathland	39	0.22	12.21
Good quality semi-improved grassland*	6	0.43	1.50
Lowland calcareous grassland	1	0.81	1.57
Traditional orchard	1	0.98	0.42

\* not a priority habitat but mapped as part of the same inventory.

*Protected Species and Species of Conservation Concern*

**4.2.8** Records of eighteen protected species or species of conservation concern, all of which are bird species, were identified within the 1km search area during the desk study. Details of these species are given in Table 4. Only species recorded within the last 10 years have been included. They comprise:

- Three species listed in Schedule 1 of the Wildlife and Countryside Act 1981, as amended;
- Four Species of Principal Importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006;
- Nine and six species listed in the Red and Amber lists of birds of conservation concern (Eaton *et al.*, 2015), respectively;
- Seven species listed as priority species by the London Biodiversity Action Plan; and
- Fifteen London Species of Conservation Concern according to the London Biodiversity Partnership.

**4.2.9** These categories are not mutually exclusive.

Table 4. Species records derived from the desk study

Latin Name	Common Name	WCA Sch 1, 5 or 8 <sup>1</sup>	Species of Principal Importance <sup>2</sup>	BoCC <sup>3</sup>	London BAP Priority Species	Local Species of Conservation Concern	Latest Record	Minimum distance to site (km) <sup>4</sup>	Source
<i>Acanthis cabaret</i>	Lesser redpoll		x	Red			2008	0.78	GIQL
<i>Alauda arvensis</i>	Skylark		x	Red	x	x	2011	0.57	GIQL
<i>Apus apus</i>	Swift			Amber		x	2012	0.83	GIQL
<i>Columba oenas</i>	Stock dove			Amber		x	2011	0.57	GIQL
<i>Corvus frugilegus</i>	Rook					x	2011	0.57	GIQL
<i>Delichon urbicum</i>	House martin			Amber		x	2008	0.78	GIQL
<i>Dendrocopus Minor</i>	Lesser Spotted Woodpecker			Red	x	x	2011	0.78	GIQL
<i>Falco tinnunculus</i>	Kestrel			Amber		x	2008	0.74	GIQL
<i>Fringilla montifringilla</i>	Brambling	Schedule 1					2011	0.61	GIQL

<sup>1</sup> Wildlife and Countryside Act 1981, as amended.

<sup>2</sup> Species "of principal importance for the purpose of conserving biodiversity" covered under section 41 (England) of the Natural Environment and Rural Communities Act (2006).

<sup>3</sup> Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man (Eaton *et al.*, 2015).

<sup>4</sup> Distance between the centre of the grid reference of the nearest record and the centroid of the site.

Latin Name	Common Name	WCA Sch1, 5 or 8 <sup>1</sup>	Species of Principal Importance <sup>2</sup>	BoCC <sup>3</sup>	London BAP Priority Species	Local Species of Conservation Concern	Latest Record	Minimum distance to site (km) <sup>4</sup>	Source
<i>Pandion haliaetus</i>	Osprey	Schedule 1		Amber			2012	0.91	GI GL
<i>Passer domesticus</i>	House sparrow		x	Red	x	x	2011	0.57	GI GL
<i>Poecile palustris</i>	Marsh tit			Red	x	x	2011	0.78	GI GL
<i>Scolopax rusticola</i>	Woodcock			Red		x	2011	0.57	GI GL
<i>Strix aluco</i>	Tawny owl			Amber		x	2008	0.74	GI GL
<i>Sturnus vulgaris</i>	Starling			Red	x	x	2008	0.78	GI GL
<i>Turdus viscivorus</i>	Mistle thrush			Red		x	2010	0.74	GI GL
<i>Vanellus vanellus</i>	Lapwing		x	Red	x	x	2010	0.74	GI GL
<i>Falco subbuteo</i>	Hobby	Schedule 1			x	x	2008	N/A*	GI GL

\* It has been requested by the data owners/originators that the geographic content for records of hobby be kept confidential.

## 4.3 Field Survey

### *Habitats and Flora*

4.3.1 The following Phase 1 habitat types were identified:

- Dense scrub;
- Unimproved neutral grassland with scattered scrub;
- Good semi-improved neutral grassland;
- Poor semi-improved grassland;
- Tall ruderal;
- Species-poor hedge;
- Building; and
- Bare ground.

4.3.2 These habitats are described below and their distribution is given on Figure 2. The full list of species recorded during the survey is given in Appendix 1.

### *Dense Scrub*

4.3.1 Along the southern end of Field 3, there is an area of dense scrub (DS1) with some scattered trees covering approximately 0.3ha. The tree layer includes occasional field maple (*Acer campestre*), sycamore (*Acer pseudoplatanus*), ash (*Fraxinus excelsior*), crab apple (*Malus sylvestris*) and wild pear (*Pyrus pyraster*), and rare Scots pine (*Pinus sylvestris*), wild cherry (*Prunus avium*) and common whitebeam (*Sorbus aria*). The shrub layer is dominated by hawthorn (*Crataegus monogyna*), with abundant blackthorn (*Prunus spinosa*), frequent common ivy (*Hedera helix*), dog-rose (*Rosa canina*) and bramble (*Rubus fruticosus* agg.), occasional white bryony (*Bryonia dioica*) and rare dogwood (*Cornus sanguinea*), pedunculate oak (*Quercus robur*) and elder (*Sambucus nigra*). Where present, the ground layer includes frequent common nettle (*Urtica dioica*) and occasional broad-leaved everlasting-pea (*Lathyrus latifolius*). This area could not be accessed and was surveyed from the adjacent field.

4.3.2 Other areas of dense scrub are located on the steep bank between Fields 4 and 5 (DS2), or along hedgerows from which they developed (DS3, DS4 and DS5). These have a plant composition similar to that found in the adjacent hedgerows, and are dominated by hawthorn with frequent elder.

4.3.3 Across the site, dense scrub covers a combined area of approximately 0.5ha.

### *Unimproved Neutral Grassland with Scattered Scrub*

4.3.4 NG/SS1 is an area of unimproved neutral grassland with scattered scrub covering 1.9ha and most of Field 3. The absence of mechanical management has allowed the development of abundant hawthorns and rare dog-rose, but these are still quite small in size, less than a metre high. Between the shrubs, the grassland is still very species-rich, with almost 80 vascular plant

species having been recorded during the survey. No species dominates. There is abundant black medick (*Medicago lupulina*), and frequent yarrow (*Achillea millefolium*), agrimony (*Agrimonia eupatoria*), common bent (*Agrostis capillaris*), false oat-grass (*Arrhenatherum elatius*), yellow oat-grass (*Trisetum flavescens*), common knapweed (*Centaurea nigra*), field bindweed (*Convolvulus arvensis*), red fescue (*Festuca rubra*), oxeye daisy (*Leucanthemum vulgare*), common bird's-foot-trefoil (*Lotus corniculatus*), red bartsia (*Odontites vernus*), common ragwort (*Senecio jacobaea*), red clover (*Trifolium pratense*) and white clover (*Trifolium repens*), occasional soft-brome (*Bromus hordeaceus*), common centaury (*Centaureum erythraea*), creeping thistle (*Cirsium arvense*), crested dog's-tail (*Cynosurus cristatus*), cock's-foot (*Dactylis glomerata*), carrot (*Daucus carota*), lady's bedstraw (*Galium verum*), perforate St John's-wort (*Hypericum perforatum*), perennial rye-grass (*Lolium perenne*), ribwort plantain (*Plantago lanceolata*), rough meadow-grass (*Poa trivialis*), selfheal (*Prunella vulgaris*), meadow buttercup (*Ranunculus acris*), bladder campion (*Silene vulgaris*), and rare nettle-leaved bellflower (*Campanula trachelium*), hedge bedstraw (*Galium album*), cut-leaved crane's-bill (*Geranium dissectum*), Yorkshire-fog (*Holcus lanatus*), meadow barley (*Hordeum secalinum*), meadow vetchling (*Lathyrus pratensis*), common mallow (*Malva sylvestris*), smaller cat's-tail (*Phleum bertolonii*), timothy (*Phleum pratense*), common sorrel (*Rumex acetosa*), dandelion (*Taraxacum* sp.), goat's-beard (*Tragopogon pratensis*), tufted vetch (*Vicia cracca*) and common vetch (*Vicia sativa*).

- 4.3.5** NG/SS2 mirrors NG/SS1 in Field 2, opposite of the shallow thalweg crossing the site. It covers 3.0ha. Hawthorn is abundant, even though less than in NG/SS1, with small individual plants scattered across the habitat. Species-rich neutral grassland occurs between the scrubs, with abundant common bird's-foot-trefoil and ribwort plantain, frequent yarrow, agrimony, common bent, false oat-grass, common knapweed, red fescue, oxeye daisy, rough meadow-grass, red clover and yellow oat-grass, occasional soft-brome, common centaury, field bindweed, crested dog's-tail, cock's-foot, Yorkshire-fog, perennial rye-grass, black medick, red bartsia, timothy, selfheal, meadow buttercup, common ragwort, lesser stitchwort (*Stellaria graminea*), goat's-beard and white clover, and rare sweet vernal-grass (*Anthoxanthum odoratum*), spear thistle (*Cirsium vulgare*), meadow barley, perforate St John's-wort, common mallow, creeping buttercup, dandelion and broomrape (*Orobanche* sp.).

#### *Good semi-improved neutral grassland*

- 4.3.6** The semi-improved neutral grassland found within the site (SNG1 to SNG5) resembles the species-rich neutral grassland found in Fields 2 (NG/SS2) and 3 (NG/SS1), but with a smaller number of species and a larger abundance of grass and ruderal species.
- 4.3.7** For instance, in Field 3, SNG1 has frequent creeping bent (*Agrostis stolonifera*) and creeping thistle, occasional common couch (*Elytrigia repens*), mugwort (*Artemisia vulgaris*), broad-leaved dock (*Rumex obtusifolius*), common nettle and hogweed (*Heracleum sphondylium*), and rare greater plantain (*Plantago major*), creeping buttercup (*Ranunculus repens*), hedge bindweed (*Calystegia sepium*), spear thistle, wild teasel (*Dipsacus fullonum*) and shepherd's-purse (*Capsella bursa-pastoris*), in addition to a number of species found in the more species-rich neutral grassland described above. SNG1 covers 0.6ha.
- 4.3.8** In Field 4, SNG3 has abundant yarrow, bent (*Agrostis* sp.), perennial rye-grass, common bird's-foot-trefoil and red clover, frequent common knapweed, crested dog's-tail, timothy, rough

meadow-grass, meadow buttercup and white clover, occasional creeping thistle, field bindweed, hawthorn, cock's-foot, red fescue, Yorkshire-fog, perforate St John's-wort, red bartsia, smaller cat's-tail, ribwort plantain, common ragwort, goat's-beard and common nettle, and rare daisy (*Bellis perennis*), spear thistle, hemlock (*Conium maculatum*), carrot, selfheal, broad-leaved dock, hedge mustard (*Sisymbrium officinale*), dandelion and yellow oat-grass. SNG4 covers 1.3ha.

**4.3.9** In Field 5, SNG4 has abundant bent, Yorkshire-fog, common bird's-foot-trefoil and white clover, frequent yarrow, field bindweed, cock's-foot, perennial rye-grass, black medick, red bartsia, timothy, rough meadow-grass, meadow buttercup, common ragwort and red clover, occasional meadow foxtail, false oat-grass, soft-brome, common knapweed, creeping thistle, hawthorn, crested dog's-tail, lady's bedstraw, ribwort plantain, common sorrel, dandelion and common nettle, and rare common centaury, autumn hawkbit (*Scorzonerooides autumnalis*), hedge woundwort (*Stachys sylvatica*), lesser stitchwort and yellow oat-grass. SNG4 covers 2.8ha.

**4.3.10** SNG5 in Field 6 has abundant white clover, frequent yarrow, bent, soft-brome, creeping thistle, field bindweed, Yorkshire-fog, perennial rye-grass, common bird's-foot-trefoil, red bartsia, ribwort plantain, rough meadow-grass, meadow buttercup, common ragwort, red clover and common nettle, occasional false oat-grass, common knapweed, cock's-foot, timothy, hedge mustard, and rare meadow foxtail, daisy, shepherd's-purse, crested dog's-tail, cut-leaved crane's-bill, hogweed, black medick, creeping cinquefoil (*Potentilla reptans*), broad-leaved dock, autumn hawkbit and dandelion. SNG5 covers 0.6ha.

**4.3.11** Across the site, good semi-improved neutral grassland covers a total of 5.8ha.

**4.3.12** The driving factors explaining the respective distribution of semi-improved neutral grassland as opposed to species-rich neutral grassland with scattered scrub seems to be both the underlying geology and the type of management in place. NG1 and NG2 are located on slopes where the soil has developed directly on the underlying chalk, whereas the location of SNG1 and SNG2 match that of the Kempton Park Gravel Formation, which is characterised by sand and gravel alluvial material formed up to 2 million years ago in the Quaternary Period and deposited in the shallow thalweg crossing the middle of the site along a south-north direction. Due to both its mineralogical composition and its low-lying topographical position, the latter formation is likely to be less freely draining and more nutrient-rich. The transition between species-rich neutral grassland on the slopes and good semi-improved neutral grassland at the bottom of the thalweg is quite sharp. It is noteworthy that scattered hawthorn has only developed on the slopes and not in the thalweg. Differences in management, possibly in grazing pressure, may explain the difference between species-rich neutral grassland and good semi-improved grassland when these lie on the same chalk formation, as is the case for NG1 on one hand and SNG3, SNG4 and SNG5 on the other hand. Fields 4, 5 and 6 were certainly much more closely grazed than Fields 2 and 3 at the time of the survey.

#### *Poor semi-improved grassland*

**4.3.13** The reason for the presence of a poor semi-improved grassland in Field 1 (SI1) is clear: this field was entirely stripped of its topsoil before an entrance shaft was dug in 2011 to initiate tunnelling works for the Croydon Cable Tunnel, which houses high-voltage cables. The site was then returned to grassland. SI1 is characterised by abundant common bent, perennial rye-grass, ribwort plantain and white clover, frequent ragwort, yarrow, cock's-foot, Yorkshire-fog,

red bartsia, rough meadow-grass, meadow buttercup and broad-leaved dock, occasional daisy, creeping thistle, common couch, cut-leaved crane's-bill, common bird's-foot-trefoil, black medick, timothy, dandelion, red clover and common nettle, and rare common knapweed, cat's-ear (*Hypochaeris radicata*), greater plantain, selfheal and lesser stitchwort. SI1 covers 2.4ha.

#### *Tall ruderal*

- 4.3.14 TR1, TR2 and TR3 are areas of tall ruderal vegetation, dominated by common nettle, with abundant false oat-grass and hogweed, frequent creeping thistle, field bindweed and cock's-foot, occasional mugwort, spear thistle and wild teasel, and rare ribbed melilot (*Melilotus officinalis*). It forms patches within SNG1 at the bottom of Field 3.
- 4.3.15 TR4 is a small patch of tall ruderal vegetation having developed near and on an area where hay was left and has decomposed, and where trampling has been substantial.
- 4.3.16 Tall ruderal vegetation covers a combined area of 0.2ha across the site.

#### *Species-poor hedge*

- 4.3.17 Most field boundaries are delineated by hedges comprising a small number of native species. They have not been trimmed or laid for a number of years and many are gappy at base or have missing trees. These are labelled "Defunct Species-poor Hedge" (PH-1 to PH-4) on Figure 2.
- 4.3.18 An example is PH-1, located along the north and west boundaries of Field 3. The shrub layer is dominated by hawthorn, with abundant elder, occasional dog-rose and bramble, and rare holly (*Ilex aquifolium*). Climbing plants include white bryony (*Bryonia dioica*), field bindweed and traveller's-joy (*Clematis vitalba*), while the ground layer comprises frequent common mallow and common nettle, occasional field bindweed and rare lesser burdock (*Arctium minus*).
- 4.3.19 There are a number of scattered young trees along some of these hedgerows. For instance PH-2, along the eastern boundary of Field 3, has rare sycamore and field maple. In the shrub layer, hawthorn, bramble and elder are abundant, dog-rose is frequent, and sycamore, crab apple and English elm (*Ulmus procera*) are occasional. Climbing common ivy is frequent, and in the ground layer there is frequent hedge woundwort and common nettle, occasional field bindweed and rare wild teasel.
- 4.3.20 Only the hedgerow along the northern boundary of the site (PH1) is regularly trimmed and is more or less continuous. Finally, the hedgerow to the west of Field 2 (PHT1) has some large trees scattered along it, some of which are located on public land on the other side of the survey boundary.
- 4.3.21 Across the site, hedgerows have a combined length of 1.7km.

#### *Building*

- 4.3.22 Buildings comprises small horse shelters in all fields but Field 3, covering a combined area of approximately 430m<sup>2</sup>.

*Bare ground*

- 4.3.23 Horse trampling has resulted in small areas of bare ground near the field entrance gate to the south of the site, and near the horse shelter in Field 2, covering a combined area of approximately 105m<sup>2</sup>.

*Fauna*

- 4.3.24 Despite the light rain at the time of the survey, a large number of marbled white and meadow brown butterflies (*Melanargia galathea* and *Maniola jurtina*, respectively) were recorded in the species-rich neutral grassland NG/SS1 in Field 3.

*Target Notes*

- 4.3.25 No target note was recorded.

## 5. Legislation and Planning Policy Considerations

### 5.1 Background

5.1.1 The content of the legislation and planning policy section is the legislation and planning policy considerations that we know are relevant based on this desk study and extended Phase 1 habitat survey. The legislation and policy considerations that might arise following further surveys are excluded. Potential further ecological considerations are discussed in Section 6. A detailed description of the method for this section is given in Appendix 2.

5.1.2 Only ecological features that were recorded within the site are taken into consideration in this section.

### 5.2 Relevant Legislation and Planning Policy

5.2.1 In preparing the Local Plan, the Council must be guided by the National Planning Policy Framework (NPPF, DCLG, March 2012). Therefore the CLPDPP must demonstrate compliance with the NPPF and produce evidence to support this.

5.2.2 The Government's objectives for conserving and enhancing the natural environment, as set out in the NPPF are:

- Protecting and enhancing valued landscapes, geological conservation interests and soils;
- Recognising the wider benefits of ecosystem services; and
- 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.

5.2.3 In particular, the NPPF requires that:

*"Local planning authorities should set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged. Distinctions should be made between the hierarchy of international, national and locally designated sites, so that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks".*

5.2.4 Furthermore, the NPPF requires that:

*"To minimise impacts on biodiversity and geodiversity, planning policies should:*

- *Plan for biodiversity at a landscape-scale across local authority boundaries;*
- *Identify and map components of the local ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them 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 protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan;*
- *Aim to prevent harm to geological conservation interests; and*
- *Where Nature Improvement Areas are identified in Local Plans, consider specifying the types of development that may be appropriate in these Areas”.*

**5.2.5** In addition to this national planning policy, Croydon Council also has legal obligations and duties for biodiversity. Table 5 below summarises the main legal considerations for planning in Croydon.

**Table 5. The legal obligations and duties of local authorities for biodiversity conservation**

Legislation / Strategies / Policies	Principal Requirements
Conservation of Habitats and Species Regulations, 2010 (as amended by the 2012 Regulations)	<p>Part 2, the protection of European Sites, especially Section 39</p> <p>Part 3, the protection of flora and fauna of European importance (European Protected Species, EPS) included in Schedules 2 and 5</p> <p>Part 5, licensing arrangements for activities affecting EPS</p> <p>Part 6, especially Chapters 1 and 2 consideration of plans and projects affecting European Sites in planning applications and Chapter 8 consideration of European Sites in land use plans</p> <p>The Regulations, as amended in 2012, now requires local authorities to “preserve, maintain and re-establish habitat for wild birds”.</p>
Wildlife and Countryside Act 1981(as amended)	<p>Part 1, protection of wildlife including the flora and fauna in Schedules 1, 5 and 8</p> <p>Part 2, nature conservation including the protection of Sites of Special Scientific Interest (SSSIs). All local authorities are Section 28G authorities for the purposes of this Part. Section 39 provides discretionary powers for local authorities to enter into management agreements with landowners for the purposes of nature conservation.</p>
Countryside and Rights of Way Act 2000 (CRoW Act)	Part 3, noting that Section 74 has been repealed

Legislation / Strategies / Policies	Principal Requirements
Natural Environment and Rural Communities Act 2006 (NERC Act)	Especially Sections 40, 41 and 42 which replace Section 74 of the CRoW Act. Section 40 places a duty on all statutory bodies to conserve biodiversity. Section 41 requires the Secretary of State to publish lists of the habitats and species of principal importance for nature conservation (See Appendix 3).
National Parks and Access to the Countryside Act 1949	Section 21 provides discretionary powers to enable local authorities to establish and manage local nature reserves (LNRs). Under the Conservation of Habitats and Species Regulations (Amendment) 2012, these powers have been extended from preserving flora and fauna to include enabling or facilitating its recovery or increase.
Protection of Badgers Act 1992	All parts. Badgers and their active setts are fully protected by law.
Wild Mammals (Protection) Act 1996	All parts. This Act makes it an offence to cruelly treat any wild mammal.

### 5.3 Priority Habitats including Ancient Woodland

- 5.3.1** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The Section 41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity. Conserving biodiversity includes, in relation to a living organism or habitat type, restoring or enhancing a population or habitat. The Local Planning Authority is considered to be a public authority under the NERC Act 2006 as it meets the criteria set out in 40(4) of the Act.
- 5.3.2** Priority habitats are given high priority under the NPPF, 2012, which states that council policies should “*promote the preservation, restoration and re-creation of priority habitats*”.
- 5.3.3** Two priority habitats (Habitats of Principal Importance in England under Section 41 of the NERC Act 2006) were identified within the site (Table 6).

**Table 6. Priority habitats recorded within the site**

Priority Habitat	Corresponding Phase 1 Habitat	Codes on Figure 2	Total Area/Length	Comments
Hedgerows	species-poor hedge, species-poor hedge with trees; defunct species-poor hedge	PH, PH-, PHT	1677m	-

Priority Habitat	Corresponding Phase 1 Habitat	Codes on Figure 2	Total Area/Length	Comments
Lowland Hay Meadow	unimproved neutral grassland with scattered scrub	NG/SS	4.9ha	-

5.3.4 In addition, the good semi-improved neutral grassland (SNG1 to SNG5 in Fields 2 to 6 on Figure 2) could most likely be returned to unimproved neutral grassland and qualify as a priority habitat if appropriate management was implemented. This habitat covers 5.8ha.

#### 5.4 Protected Species

5.4.1 No protected species were recorded within the site boundary during the extended phase 1 survey.

#### 5.5 Species of Conservation Concern

5.5.1 Like priority habitats, priority species are given high priority under the NPPF, 2012, which states that *"Planning policies should promote the protection and recovery of priority species"*.

5.5.2 Marbled white (*Melanargia galathea*) was recorded within the site boundary during the extended phase 1 survey. It is a Local Species of Conservation Concern, as defined by the London Biodiversity Partnership. No other species of conservation concern were recorded.

#### 5.6 Invasive Species

5.6.1 No invasive plant species listed under Schedule 9 of the WCA 1981 were recorded within the site during the extended Phase 1 survey.

## 6. Potential Further Ecological Considerations

- 6.1.1** The potential further ecological considerations section sets out our assessment of the potential of the site to support protected species and other species of conservation concern which were not recorded during the extended Phase 1 habitat survey. Further survey work or appropriate mitigation is likely to be required before these issues can be addressed. Further information on the methods of assessment is given in Appendix 2.
- 6.1.2** The assessment is given in Table 7.

**Table 7. Potential of the site to support protected species or species of conservation concern not recorded within the site boundary during the desk study and the Phase 1 survey**

Species	Records within 1km of the site?	Connectivity with Other Sites	Suitability of the Site for Foraging	Suitability of the Site for Breeding	Overall Potential of the Site
Bats	No	Good	Good	Poor to moderate	Moderate
Reptiles	No	Moderate	Good	Moderate	Moderate
Breeding birds <sup>1</sup>	Yes	Moderate to good	Poor to moderate	Poor to moderate	Poor to moderate
Wintering birds <sup>1</sup>	Yes	Moderate to good	Poor to moderate	Non applicable	Poor to moderate
Terrestrial invertebrates	No	Moderate to good	Good		Moderate to good
Aquatic invertebrates	No	Poor	Null		Null

- 6.1.3** In addition, Fields 2 and 3 have a moderate to good potential for vascular plant species that are protected and/or of conservation concern and that were not recorded during the extended Phase 1 survey. This is because the extended Phase 1 survey methodology does not involve an exhaustive search for all vascular plants occurring within a site, and some species with a low abundance may have been overlooked. It is recommended that an exhaustive search for vascular plant species that are protected and/or of conservation concern is carried out at an appropriate time of the year.
- 6.1.4** To fully assess the conservation value of grassland habitats within the site, a National Vegetation Classification (NVC) survey is recommended to provide a comprehensive classification and description of the plant communities.

<sup>1</sup> The assessment of the site potential to support breeding and wintering birds relates to protected species and species of conservation concern which are known to occur within 1km of the site (see Table 4).

## 7. Evaluation of Likely Conservation Value

**7.1.1** This section evaluates the likely conservation value of the site at the scale of Croydon borough against criteria recommended by the London Wildlife Site Board advice note (London Wildlife Site Board, 2013) for selecting Sites of Importance for Nature Conservation in London. Our evaluation is detailed in 8.

**Table 8. Evaluation of the site against criteria for SINIC designation in London.**

Criteria	Likely Value	Rationale
Representation	High	Priority habitats within the site make for a large percentage of the total resource within Croydon: areas mapped as unimproved neutral grassland represent 19.4% of the total area of lowland hay meadow priority habitat mapped by Natural England within the borough. Areas mapped as good semi-improved neutral grassland within the site make for 8.3% of the known resource of this habitat in the borough.
Habitat rarity	Moderate	Two priority habitats are present within the site (lowland hay meadow and hedgerows), and an additional habitat (good semi-improved neutral grassland) has the potential to be easily restored into priority habitat (lowland hay meadow).
Species rarity	Low to Moderate	Only one local species of conservation concern (marbled white) has been recorded on site. However, there is clearly suitable habitat for a range of rare species including plants and invertebrates. Further specialist surveys are required to fully assess the value of the site with regard to this criterion.
Habitat richness	Low to moderate	The site is characterised by a relatively small number of habitats; however their structural diversity is important due to the intricate mosaic of grassland and scattered scrub in Fields 2 and 3.
Species richness	Moderate	There is a moderate diversity of native vascular plant species (90 species recorded during the extended Phase 1 survey), a good potential for invertebrates and additional plants, and a moderate to good potential for reptiles and foraging/commuting bats. Further specialist surveys are required to fully assess the value of the site with regard to this criterion.
Size	Moderate	The site is 13.9ha in size, slightly larger than the median area of existing SINICs in Croydon (8.5ha) and slightly smaller than their average mean area (21.2ha)
Important populations of species	Low	There is no known important population of species within the site. However there is a good potential for invertebrates. Further specialist surveys are required to fully assess the value of the site with regard to this criterion.

Criteria	Likely Value	Rationale
Ancient character	Unknown, probably low	There is no evidence that any of the habitat present within the site is ancient, i.e. several centuries old. It is possible that the unimproved neutral grassland has existed for a long period of time. An historical and/or archaeological assessment would be required to fully assess the value of the site with regard to this criteria.
Recreatability	Moderate	Unimproved neutral grassland may be recreated within a medium time-scale, however this is notoriously difficult and requires that the soil trophic regime is not altered. Other habitats may be recreated within a short to medium time-scale.
Typical urban character	Low	The site is a remnant of a previously rural landscape and is not of a typical urban character.
Cultural or historic character	Low	The site has no known cultural or historic interest. An historical and/or archaeological assessment would be required to fully assess the value of the site with regard to this criteria.
Geographic position	Low to moderate	The site is not within an area of deficiency in access to nature as mapped by GIGL (areas where people have to walk more than one kilometre to reach an accessible wildlife Site of Metropolitan or Borough Importance). It is directly adjacent to such areas and could therefore contribute to the provision of access to nature but it is currently not accessible to the public.
Access	Low	The site is currently not accessible to the public, even though the southern part of the field is visible from Huntingfield.
Use	Low	The site is currently used for horse grazing.
Potential	Moderate to high	<p>The conservation condition of unimproved neutral grassland within the site could be easily improved by ensuring appropriate management is resumed. This would include management as a hay meadow with aftermath grazing, or at least a reduction in grazing pressure, and control of encroaching scrub. Some scattered scrub should be maintained as both scrub and the scrub-grassland interface offer suitable habitat for many species such as reptiles and invertebrates, and the presence of scrub protect some of the grassland from over-grazing.</p> <p>Good semi-improved neutral grassland, which cover 5.8ha in Fields 2 to 6, could most likely be restored to unimproved neutral grassland with relatively little effort and in a short to medium time-scale if appropriate management as described above was resumed.</p>

Criteria	Likely Value	Rationale
		Hedgerows could be relatively easily enhanced for wildlife by undertaking appropriate management and introducing additional native tree and shrub species.
Aesthetic appeal	Moderate	The unimproved neutral grassland in Fields 2 and 3 is rich in brightly-coloured flowers and does provide habitat to large numbers of butterflies; however other fields have little aesthetic appeal due to the shortly grazed vegetation and the presence of horse and hay shelters made of corrugated iron sheets.

- 7.1.2 It is concluded that the site meets the criteria listed by the London Wildlife Site Board (2013) for designation as a SINC, mainly through the presence of large areas of both unimproved neutral grassland and good semi-improved neutral grassland, the former being a priority habitat and the latter having the potential to be restored to priority habitat. There is potential habitat for protected species and species of conservation concern but further specialist surveys are required to confirm the value of the site with regard to this criterion.
- 7.1.3 Field 1, however, does not meet any of the criteria for SINC designation and has low potential for species of conservation concern.
- 7.1.4 Consequently, it is recommended that the site, with the exception of Field 1 located along Kent Gate Way to the north-west of the site, is designated as a SINC. The designation grade should be determined using the criteria defined by Croydon Borough Council to rank existing SINC's within the borough (Thomson Ecology, 2014).
- 7.1.5 As recommended by the London Wildlife Site Board advice note, the survey data and recommendations detailed within this report should be submitted to a local Site Selection Panel whose responsibility it is to provide independent, expert advice on the approach to surveys and evaluation and to validate any recommendations on SINC status.
- 7.1.6 It is recommended that further specialist surveys, in particular for invertebrates and for rare plants, are carried out to further assess the value of the site. It is also recommended that Field 7 is adequately surveyed should access become possible.

## 8. Conclusions

- 8.1.1 A Preliminary Ecological Appraisal, comprising a desk study of existing records and an extended Phase 1 habitat survey, was completed at land off Kent Gate Way, Croydon.
- 8.1.2 The desk study highlighted the presence of eighteen protected species or species of conservation concern within 1km of the site, but no record of such species is known from within the site.
- 8.1.3 The extended Phase 1 habitat survey recorded the presence of two priority habitats: unimproved neutral grassland (which falls under the Lowland Hay Meadow denomination) and hedgerows. An additional habitat (good semi-improved neutral grassland) could most likely be restored into unimproved neutral grassland (and therefore qualify as a HPI under the Lowland Hay Meadow denomination) if an appropriate management regime was implemented.
- 8.1.4 Habitat is present that could potentially support a number of other protected species or species of conservation concern. An NVC survey and an exhaustive search for plant species that are protected or of conservation concern is recommended to fully assess the plant communities present on site. Specialist invertebrate surveys should also be undertaken.
- 8.1.5 The site meets some criteria for SINC designation in London, mainly due to the presence of large areas of priority habitat and potential priority habitat. Consequently it is recommended that the site, with the exception of Field 1, is afforded SINC status.

## 9. References

- 9.1.1 CIEEM (2013) Guidelines for Preliminary Ecological Appraisal. Chartered Institute of Ecology and Environmental Management, Winchester, England.
- 9.1.2 Eaton, M., Aebischer, N., Brown, A., Hearn, R., Lock, L., Musgrove, A., Noble, D., Stroud, D. & Gregory, R. (2015) Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. *British Birds*, 108, 708-746.
- 9.1.3 Institute of Environmental Assessment (1995) Guidelines for Baseline Ecological Assessment. E & FN Spon, London, England.
- 9.1.4 JNCC (2010) Handbook for Phase 1 habitat survey: A technique for environmental audit. Joint Nature Conservancy Committee, Peterborough, England.
- 9.1.5 The London Wildlife Site Board (2013) Advice note - Process for selecting and confirming Sites of Importance for Nature Conservation (SINCs) in Greater London. Greater London Authority, London, England.
- 9.1.6 Stace, C. (2010) New Flora of the British Isles (third edition). Cambridge University Press, Cambridge, England.
- 9.1.7 Thomson Ecology (2014) Review of Sites of Importance for Nature Conservation (Updated 2014). Report Ref.: JCLB103/002/001, Thomson Ecology, Guildford, England.
- 9.1.8

## 10. Appendix 1 - Vascular plant species recorded during the Phase 1 survey

### *Dense Scrub (DS1)*

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Prunus spinosa</i>	blackthorn	DS1	shrub layer	A
<i>Crataegus monogyna</i>	hawthorn	DS1	shrub layer	D
<i>Hedera helix</i>	common ivy	DS1	shrub layer	F
<i>Rosa canina</i>	dog-rose	DS1	shrub layer	F
<i>Rubus fruticosus agg.</i>	bramble	DS1	shrub layer	F
<i>Bryonia dioica</i>	white bryony	DS1	shrub layer	O
<i>Cornus sanguinea</i>	dogwood	DS1	shrub layer	R
<i>Quercus robur</i>	pedunculate oak	DS1	shrub layer	R
<i>Sambucus nigra</i>	elder	DS1	shrub layer	R
<i>Acer campestre</i>	field maple	DS1	tree layer	O
<i>Acer pseudoplatanus</i>	sycamore	DS1	tree layer	O
<i>Fraxinus excelsior</i>	ash	DS1	tree layer	O
<i>Malus sylvestris</i>	crab apple	DS1	tree layer	O
<i>Pyrus pyraster</i>	wild pear	DS1	tree layer	O
<i>Pinus sylvestris</i>	Scots pine	DS1	tree layer	R
<i>Prunus avium</i>	wild cherry	DS1	tree layer	R
<i>Sorbus aria</i>	common whitebeam	DS1	tree layer	R
<i>Urtica dioica</i>	common nettle	DS1		F
<i>Lathyrus latifolius</i>	broad-leaved everlasting-pea	DS1		O

### *Unimproved neutral grassland with scattered scrub (NG1)*

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Crataegus monogyna</i>	hawthorn	NG1		A

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Medicago lupulina</i>	black medick	NG1		A
<i>Achillea millefolium</i>	yarrow	NG1		F
<i>Agrimonia eupatoria</i>	agrimony	NG1		F
<i>Agrostis capillaris</i>	common bent	NG1		F
<i>Arrhenatherum elatius</i>	false oat-grass	NG1		F
<i>Centaurea nigra</i>	common knapweed	NG1		F
<i>Convolvulus arvensis</i>	field bindweed	NG1		F
<i>Festuca rubra</i>	red fescue	NG1		F
<i>Leucanthemum vulgare</i>	oxeye daisy	NG1		F
<i>Lotus corniculatus</i>	common bird's-foot-trefoil	NG1		F
<i>Odontites vernus</i>	red bartsia	NG1		F
<i>Senecio jacobaea</i>	common ragwort	NG1		F
<i>Trifolium pratense</i>	red clover	NG1		F
<i>Trifolium repens</i>	white clover	NG1		F
<i>Trisetum flavescens</i>	yellow oat-grass	NG1		F
<i>Agrostis stolonifera</i>	creeping bent	NG1		O
<i>Artemisia vulgaris</i>	mugwort	NG1		O
<i>Bromus hordeaceus</i>	soft-brome	NG1		O
<i>Calystegia sepium</i>	hedge bindweed	NG1		O
<i>Centaureum erythraea</i>	common centaury	NG1		O
<i>Cirsium arvense</i>	creeping thistle	NG1		O
<i>Cirsium vulgare</i>	spear thistle	NG1		O
<i>Cynosurus cristatus</i>	crested dog's-tail	NG1		O
<i>Dactylis glomerata</i>	cock's-foot	NG1		O
<i>Daucus carota</i>	carrot	NG1		O
<i>Dipsacus fullonum</i>	wild teasel	NG1		O
<i>Galium verum</i>	lady's bedstraw	NG1		O

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Hypericum perforatum</i>	perforate St John's-wort	NG1		O
<i>Lolium perenne</i>	perennial rye-grass	NG1		O
<i>Plantago lanceolata</i>	ribwort plantain	NG1		O
<i>Poa trivialis</i>	rough meadow-grass	NG1		O
<i>Prunella vulgaris</i>	selfheal	NG1		O
<i>Ranunculus acris</i>	meadow buttercup	NG1		O
<i>Rumex obtusifolius</i>	broad-leaved dock	NG1		O
<i>Silene vulgaris</i>	bladder campion	NG1		O
<i>Urtica dioica</i>	common nettle	NG1		O
<i>Campanula trachelium</i>	nettle-leaved bellflower	NG1		R
<i>Capsella bursa-pastoris</i>	shepherd's-purse	NG1		R
<i>Elytrigia repens</i>	common couch	NG1		R
<i>Galium album</i>	hedge bedstraw	NG1		R
<i>Geranium dissectum</i>	cut-leaved crane's-bill	NG1		R
<i>Heracleum sphondylium</i>	hogweed	NG1		R
<i>Holcus lanatus</i>	yorkshire-fog	NG1		R
<i>Hordeum secalinum</i>	meadow barley	NG1		R
<i>Lathyrus pratensis</i>	meadow vetchling	NG1		R
<i>Malva sylvestris</i>	common mallow	NG1		R
<i>Phleum bertolonii</i>	smaller cat's-tail	NG1		R
<i>Phleum pratense</i>	timothy	NG1		R
<i>Plantago major</i>	greater plantain	NG1		R
<i>Ranunculus repens</i>	creeping buttercup	NG1		R
<i>Rosa canina</i>	dog-rose	NG1		R
<i>Rumex acetosa</i>	common sorrel	NG1		R
<i>Taraxacum sp.</i>	a dandelion	NG1		R
<i>Tragopogon pratensis</i>	goat's-beard	NG1		R

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Vicia cracca</i>	tufted vetch	NG1		R
<i>Vicia sativa</i>	common vetch	NG1		R

*Unimproved neutral grassland with scattered scrub (NG2)*

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Crataegus monogyna</i>	hawthorn	NG2	shrub layer	A
<i>Lotus corniculatus</i>	common bird's-foot-trefoil	NG2		A
<i>Plantago lanceolata</i>	ribwort plantain	NG2		A
<i>Achillea millefolium</i>	yarrow	NG2		F
<i>Agrimonia eupatoria</i>	agrimony	NG2		F
<i>Agrostis sp.</i>	a bent	NG2		F
<i>Arrhenatherum elatius</i>	false oat-grass	NG2		F
<i>Centaurea nigra</i>	common knapweed	NG2		F
<i>Festuca rubra</i>	red fescue	NG2		F
<i>Leucanthemum vulgare</i>	oxeye daisy	NG2		F
<i>Poa trivialis</i>	rough meadow-grass	NG2		F
<i>Trifolium pratense</i>	red clover	NG2		F
<i>Trisetum flavescens</i>	yellow oat-grass	NG2		F
<i>Bromus hordeaceus</i>	soft-brome	NG2		O
<i>Centaureum erythraea</i>	common centaury	NG2		O
<i>Convolvulus arvensis</i>	field bindweed	NG2		O
<i>Cynosurus cristatus</i>	crested dog's-tail	NG2		O
<i>Dactylis glomerata</i>	cock's-foot	NG2		O
<i>Holcus lanatus</i>	yorkshire-fog	NG2		O
<i>Lolium perenne</i>	perennial rye-grass	NG2		O
<i>Medicago lupulina</i>	black medick	NG2		O
<i>Odontites vernus</i>	red bartsia	NG2		O

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Phleum pratense</i>	timothy	NG2		O
<i>Prunella vulgaris</i>	selfheal	NG2		O
<i>Ranunculus acris</i>	meadow buttercup	NG2		O
<i>Senecio jacobaea</i>	common ragwort	NG2		O
<i>Stellaria graminea</i>	lesser stitchwort	NG2		O
<i>Tragopogon pratensis</i>	goat's-beard	NG2		O
<i>Trifolium repens</i>	white clover	NG2		O
<i>Anthoxanthum odoratum</i>	sweet vernal-grass	NG2		R
<i>Cirsium vulgare</i>	spear thistle	NG2		R
<i>Hordeum secalinum</i>	meadow barley	NG2		R
<i>Hypericum perforatum</i>	perforate St John's-wort	NG2		R
<i>Malva sylvestris</i>	common mallow	NG2		R
<i>Ranunculus repens</i>	creeping buttercup	NG2		R
<i>Taraxacum sp.</i>	a dandelion	NG2		R

*Defunct species-poor hedge (PH-1)*

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Sambucus nigra</i>	elder	PH-1	shrub layer	A
<i>Crataegus monogyna</i>	hawthorn	PH-1	shrub layer	D
<i>Bryonia dioica</i>	white bryony	PH-1	shrub layer	O
<i>Rosa canina</i>	dog-rose	PH-1	shrub layer	O
<i>Rubus fruticosus agg.</i>	bramble	PH-1	shrub layer	O
<i>Clematis vitalba</i>	traveller's-joy	PH-1	shrub layer	R
<i>Ilex aquifolium</i>	holly	PH-1	shrub layer	R
<i>Malva sylvestris</i>	common mallow	PH-1		F
<i>Urtica dioica</i>	common nettle	PH-1		F
<i>Convolvulus arvensis</i>	field bindweed	PH-1		O

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Arctium minus</i>	lesser burdock	PH-1		R

*Defunct species-poor hedge (PH-2)*

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Crataegus monogyna</i>	hawthorn	PH-2	shrub layer	A
<i>Rubus fruticosus agg.</i>	bramble	PH-2	shrub layer	A
<i>Sambucus nigra</i>	elder	PH-2	shrub layer	A
<i>Hedera helix</i>	common ivy	PH-2	shrub layer	F
<i>Rosa canina</i>	dog-rose	PH-2	shrub layer	F
<i>Acer pseudoplatanus</i>	sycamore	PH-2	shrub layer	O
<i>Malus sylvestris</i>	crab apple	PH-2	shrub layer	O
<i>Ulmus procera</i>	English elm	PH-2	shrub layer	O
<i>Acer campestre</i>	field maple	PH-2	tree layer	R
<i>Acer pseudoplatanus</i>	sycamore	PH-2	tree layer	R
<i>Stachys sylvatica</i>	hedge woundwort	PH-2		F
<i>Urtica dioica</i>	common nettle	PH-2		F
<i>Convolvulus arvensis</i>	field bindweed	PH-2		O
<i>Dipsacus fullonum</i>	wild teasel	PH-2		R

*Poor semi-improved grassland with scattered scrub (SI/SS1)*

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Crataegus monogyna</i>	hawthorn	SI/SS1	shrub layer	F
<i>Fraxinus excelsior</i>	ash	SI/SS1	shrub layer	O
<i>Quercus robur</i>	pedunculate oak	SI/SS1	shrub layer	R
<i>Arrhenatherum elatius</i>	false oat-grass	SI/SS1		D
<i>Anthriscus sylvestris</i>	cow parsley	SI/SS1		O
<i>Urtica dioica</i>	common nettle	SI/SS1		O

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Heracleum sphondylium</i>	hogweed	SI/SS1		R

*Poor semi-improved grassland (SI1)*

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Agrostis capillaris</i>	common bent	SI1		A
<i>Lolium perenne</i>	perennial rye-grass	SI1		A
<i>Plantago lanceolata</i>	ribwort plantain	SI1		A
<i>Trifolium repens</i>	white clover	SI1		A
<i>Achillea millefolium</i>	yarrow	SI1		F
<i>Dactylis glomerata</i>	cock's-foot	SI1		F
<i>Holcus lanatus</i>	yorkshire-fog	SI1		F
<i>Odontites vernus</i>	red bartsia	SI1		F
<i>Poa trivialis</i>	rough meadow-grass	SI1		F
<i>Ranunculus acris</i>	meadow buttercup	SI1		F
<i>Rumex obtusifolius</i>	broad-leaved dock	SI1		F
<i>Senecio jacobaea</i>	common ragwort	SI1		F
<i>Bellis perennis</i>	daisy	SI1		O
<i>Cirsium arvense</i>	creeping thistle	SI1		O
<i>Elytrigia repens</i>	common couch	SI1		O
<i>Geranium dissectum</i>	cut-leaved crane's-bill	SI1		O
<i>Lotus corniculatus</i>	common bird's-foot-trefoil	SI1		O
<i>Medicago lupulina</i>	black medick	SI1		O
<i>Phleum pratense</i>	timothy	SI1		O
<i>Taraxacum sp.</i>	a dandelion	SI1		O
<i>Trifolium pratense</i>	red clover	SI1		O
<i>Urtica dioica</i>	common nettle	SI1		O
<i>Centaurea nigra</i>	common knapweed	SI1		R

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Hypochaeris radicata</i>	cat's-ear	S11		R
<i>Plantago major</i>	greater plantain	S11		R
<i>Prunella vulgaris</i>	selfheal	S11		R
<i>Stellaria graminea</i>	lesser stitchwort	S11		R

*Good semi-improved neutral grassland (SNG3)*

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Achillea millefolium</i>	yarrow	SNG3		A
<i>Agrostis sp.</i>	a bent	SNG3		A
<i>Lolium perenne</i>	perennial rye-grass	SNG3		A
<i>Lotus corniculatus</i>	common bird's-foot-trefoil	SNG3		A
<i>Trifolium pratense</i>	red clover	SNG3		A
<i>Centaurea nigra</i>	common knapweed	SNG3		F
<i>Cynosurus cristatus</i>	crested dog's-tail	SNG3		F
<i>Phleum pratense</i>	timothy	SNG3		F
<i>Poa trivialis</i>	rough meadow-grass	SNG3		F
<i>Ranunculus acris</i>	meadow buttercup	SNG3		F
<i>Trifolium repens</i>	white clover	SNG3		F
<i>Cirsium arvense</i>	creeping thistle	SNG3		O
<i>Convolvulus arvensis</i>	field bindweed	SNG3		O
<i>Crataegus monogyna</i>	hawthorn	SNG3		O
<i>Dactylis glomerata</i>	cock's-foot	SNG3		O
<i>Festuca rubra</i>	red fescue	SNG3		O
<i>Holcus lanatus</i>	yorkshire-fog	SNG3		O
<i>Hypericum perforatum</i>	perforate St John's-wort	SNG3		O
<i>Odontites vernus</i>	red bartsia	SNG3		O
<i>Phleum bertolonii</i>	smaller cat's-tail	SNG3		O

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Plantago lanceolata</i>	ribwort plantain	SNG3		O
<i>Senecio jacobaea</i>	common ragwort	SNG3		O
<i>Tragopogon pratensis</i>	goat's-beard	SNG3		O
<i>Tragopogon pratensis</i>	goat's-beard	SNG3		O
<i>Urtica dioica</i>	common nettle	SNG3		O
<i>Bellis perennis</i>	daisy	SNG3		R
<i>Cirsium vulgare</i>	spear thistle	SNG3		R
<i>Conium maculatum</i>	hemlock	SNG3		R
<i>Daucus carota</i>	carrot	SNG3		R
<i>Prunella vulgaris</i>	selfheal	SNG3		R
<i>Rumex obtusifolius</i>	broad-leaved dock	SNG3		R
<i>Sisymbrium officinale</i>	hedge mustard	SNG3		R
<i>Taraxacum sp.</i>	a dandelion	SNG3		R
<i>Trisetum flavescens</i>	yellow oat-grass	SNG3		R

*Good semi-improved neutral grassland (SNG4)*

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Agrostis sp.</i>	a bent	SNG4		A
<i>Holcus lanatus</i>	yorkshire-fog	SNG4		A
<i>Lotus corniculatus</i>	common bird's-foot-trefoil	SNG4		A
<i>Trifolium repens</i>	white clover	SNG4		A
<i>Achillea millefolium</i>	yarrow	SNG4		F
<i>Convolvulus arvensis</i>	field bindweed	SNG4		F
<i>Dactylis glomerata</i>	cock's-foot	SNG4		F
<i>Lolium perenne</i>	perennial rye-grass	SNG4		F
<i>Medicago lupulina</i>	black medick	SNG4		F
<i>Odontites vernus</i>	red bartsia	SNG4		F

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Phleum pratense</i>	timothy	SNG4		F
<i>Poa trivialis</i>	rough meadow-grass	SNG4		F
<i>Ranunculus acris</i>	meadow buttercup	SNG4		F
<i>Senecio jacobaea</i>	common ragwort	SNG4		F
<i>Trifolium pratense</i>	red clover	SNG4		F
<i>Alopecurus pratensis</i>	meadow foxtail	SNG4		O
<i>Arrhenatherum elatius</i>	false oat-grass	SNG4		O
<i>Bromus hordeaceus</i>	soft-brome	SNG4		O
<i>Centaurea nigra</i>	common knapweed	SNG4		O
<i>Cirsium arvense</i>	creeping thistle	SNG4		O
<i>Crataegus monogyna</i>	hawthorn	SNG4		O
<i>Cynosurus cristatus</i>	crested dog's-tail	SNG4		O
<i>Galium verum</i>	lady's bedstraw	SNG4		O
<i>Plantago lanceolata</i>	ribwort plantain	SNG4		O
<i>Rumex acetosa</i>	common sorrel	SNG4		O
<i>Taraxacum sp.</i>	a dandelion	SNG4		O
<i>Urtica dioica</i>	common nettle	SNG4		O
<i>Centaureum erythraea</i>	common centaury	SNG4		R
<i>Rumex acetosa</i>	common sorrel	SNG4		R
<i>Scorzoneroides autumnalis</i>	autumn hawkbit	SNG4		R
<i>Stachys sylvatica</i>	hedge woundwort	SNG4		R
<i>Stellaria graminea</i>	lesser stitchwort	SNG4		R
<i>Trisetum flavescens</i>	yellow oat-grass	SNG4		R

*Good semi-improved neutral grassland (SNG5)*

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Trifolium repens</i>	white clover	SNG5		A
<i>Achillea millefolium</i>	yarrow	SNG5		F
<i>Agrostis sp.</i>	a bent	SNG5		F
<i>Bromus hordeaceus</i>	soft-brome	SNG5		F
<i>Cirsium arvense</i>	creeping thistle	SNG5		F
<i>Convolvulus arvensis</i>	field bindweed	SNG5		F
<i>Holcus lanatus</i>	yorkshire-fog	SNG5		F
<i>Lolium perenne</i>	perennial rye-grass	SNG5		F
<i>Lotus corniculatus</i>	common bird's-foot-trefoil	SNG5		F
<i>Odontites vernus</i>	red bartsia	SNG5		F
<i>Plantago lanceolata</i>	ribwort plantain	SNG5		F
<i>Poa trivialis</i>	rough meadow-grass	SNG5		F
<i>Ranunculus acris</i>	meadow buttercup	SNG5		F
<i>Senecio jacobaea</i>	common ragwort	SNG5		F
<i>Trifolium pratense</i>	red clover	SNG5		F
<i>Urtica dioica</i>	common nettle	SNG5		F
<i>Arrhenatherum elatius</i>	false oat-grass	SNG5		O
<i>Centaurea nigra</i>	common knapweed	SNG5		O
<i>Dactylis glomerata</i>	cock's-foot	SNG5		O
<i>Phleum pratense</i>	timothy	SNG5		O
<i>Sisymbrium officinale</i>	hedge mustard	SNG5		O
<i>Alopecurus pratensis</i>	meadow foxtail	SNG5		R
<i>Bellis perennis</i>	daisy	SNG5		R
<i>Capsella bursa-pastoris</i>	shepherd's-purse	SNG5		R
<i>Cynosurus cristatus</i>	crested dog's-tail	SNG5		R
<i>Geranium dissectum</i>	cut-leaved crane's-bill	SNG5		R

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Heracleum sphondylium</i>	hogweed	SNG5		R
<i>Medicago lupulina</i>	black medick	SNG5		R
<i>Potentilla reptans</i>	creeping cinquefoil	SNG5		R
<i>Rumex obtusifolius</i>	broad-leaved dock	SNG5		R
<i>Scorzoneroides autumnalis</i>	autumn hawkbit	SNG5		R
<i>Taraxacum sp.</i>	a dandelion	SNG5		R

*Tall ruderal (TR1 to TR3)*

Latin name	Common name	Phase 1 code	Layer	Abundance
<i>Arrhenatherum elatius</i>	false oat-grass	TR1, TR2 & TR3		A
<i>Heracleum sphondylium</i>	hogweed	TR1, TR2 & TR3		A
<i>Urtica dioica</i>	common nettle	TR1, TR2 & TR3		D
<i>Cirsium arvense</i>	creeping thistle	TR1, TR2 & TR3		F
<i>Convolvulus arvensis</i>	field bindweed	TR1, TR2 & TR3		F
<i>Dactylis glomerata</i>	cock's-foot	TR1, TR2 & TR3		F
<i>Artemisia vulgaris</i>	mugwort	TR1, TR2 & TR3		O
<i>Cirsium vulgare</i>	spear thistle	TR1, TR2 & TR3		O
<i>Dipsacus fullonum</i>	wild teasel	TR1, TR2 & TR3		O
<i>Melilotus officinalis</i>	ribbed melilot	TR1, TR2 & TR3		R

## 11. Appendix 2 - Assessment Methodology

### 11.1 Identification of Legal and Planning Policy Issues in England

#### *Scope of Assessment*

- 11.1.1 The first step is to identify any biodiversity features found on the site that are subject to legal or policy controls, as follows:

#### *Designated Sites*

- 11.1.2 The location of the site is compared to the distribution of sites with a statutory or non-statutory nature conservation designation using information derived from the desk study. Consideration is given to designated sites that could be affected directly or indirectly by the proposed development.

#### *Habitats outside Designated Sites*

- 11.1.3 The habitats known to occur on the site are compared to those which receive some protection, in law or policy, outside of designated sites i.e. hedgerows, uncultivated land and semi-natural areas, habitats listed as priorities in the home nation biodiversity strategies, habitats listed as Habitats of Principal Importance for the Conservation of Biodiversity by the Secretary of State and local priority habitats listed as requiring action (formerly under the Local Biodiversity Action Plans).

#### *Ancient Woodland*

- 11.1.4 The ancient woodland inventory is checked to determine whether any known ancient woodland occurs either on the site or nearby.

#### *Protected Species*

- 11.1.5 The species known to occur on the site as a result of the desk study and Phase 1 habitat survey are compared with those listed in nature conservation legislation i.e. the Wildlife and Countryside Act 1981, as amended, the Conservation (Habitats &c) Regulations 2010.
- 11.1.6 In addition, the species known to occur on the site as a result of the desk study and Phase 1 habitat survey are compared with those listed in animal welfare legislation, i.e. the Badgers Act 1992 and the Wild Mammals (Protection) Act 1996.

#### *Priority Species*

- 11.1.7 The species known to occur on the site are compared with those listed as priority species (i.e. Species of Principal Importance for the Conservation of Biodiversity in the country concerned) or those requiring action on the local priority species lists (Local Biodiversity Action Plans).

### *Other Species of Conservation Concern*

- 11.1.8** The species known to occur on the site are compared with other nature conservation listings, such as red data books.

### *Invasive Plant Species*

- 11.1.9** The species of plant present on the site are compared with those listed by government agencies as invasive non-natives, with particular attention given to those listed in the Wildlife and Countryside Act 1981, as amended.

### *Review of Legislation and Policy*

- 11.1.10** If any of the above are found to occur on or near the site and are likely to be affected by the development in any way, the relevant legislation and planning policy (including national, regional, local policies) are examined to determine whether the proposed development is compliant.

### *Ecological Enhancement*

- 11.1.11** Planning policy generally requires new developments to be enhanced for biodiversity. The existing proposals are considered to determine whether biodiversity enhancements are offered and whether they are adequate to meet the policy requirements. Again, national, regional and local policies are considered.

## **11.2 Identification of Potential Further Ecological Considerations**

- 11.2.1** Further ecological issues are those which cannot be resolved during the preliminary ecological appraisal for any reason, including the following:
- The development is near a designated site and consultation with the relevant regulator is required in order to determine whether further assessment is required;
  - Suitable habitat is present on or near the site for a protected species/species of conservation concern and specialist survey techniques are required for their detection;
  - Suitable habitat is present on or near the site for a protected species/species of conservation concern and the extended Phase 1 habitat survey was not undertaken at a suitable time of year for their detection;
  - A protected species/species of conservation concern was found on or near the site but further information on population size or distribution is required in order to resolve any legal and planning policy issues (such as obtaining licences).
- 11.2.2** Discussion of issues raised by 3<sup>rd</sup> parties, e.g. reports of protected species from the site by local people, may also be discussed under this heading.

**11.2.3** The desk study is used as a guide to the protected species/species of conservation in the local area, however, the list is not taken to be exhaustive and it is borne in mind that some species may no longer occur in the locality.

**11.2.4** No attempt is made to evaluate the importance of the site for species not yet confirmed to be on or near the site, nor to discuss the implications for the development if the species were to be found on the site.

**11.2.4**