



Sompting Fringe, Sompting, West Sussex

Preliminary Ecological Appraisal

Report for Sheils Flynn

on behalf of Adur District Council

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Executive Summary

The Ecology Consultancy was commissioned by Sheils Flynn on behalf of Adur District Council to carry out a Preliminary Ecological Appraisal (PEA) of Sompting Fringe, on the edge of Sompting in West Sussex. This assessment is part of the landscape and ecological survey of potential strategic allocations within Adur District being carried out by Sheils Flynn for the Council's emerging Local Plan.

A PEA, including protected species risk assessment, was carried out on the 24th July 2012 and the main findings are as follows:

- The site supports a moderately diverse range of habitats, including; buildings, hardstanding, bare ground, arable, improved and poor semi-improved grassland, tall ruderal vegetation, ephemeral/short perennial vegetation, running water, marginal vegetation, swamp (reedbed), introduced shrub, continuous and scattered scrub, scattered trees, native and non-native hedgerows and broad-leaved semi-natural woodland (wet woodland).
- The site is not subject to any statutory nature conservation designations. The nearest statutory designated nature conservation site is Lancing Ring Local Nature Reserve and Site of Nature Conservation Importance (SNCI).
- The south-east corner of the site forms part of Lower Cokeham Reedbed and Ditches SNCI. This non-statutory designated nature conservation site is considered to be of county importance and any potential impact on the SNCI, as a result of development, is of material consideration in the planning process.
- The area of highest ecological value at Sompting Fringe is the east section of the site. This is because it has the highest habitat diversity, including UK Biodiversity Action Plan (BAP) priority habitats, that have potential to support a wide range of protected, rare/notable and UK BAP species. Habitats also perform an important supporting buffering role to the SNCI in terms of buffering and maintaining the local hydrological system. In this regard the east section of the site is considered to be of at least district value.
- It is strongly recommended that, where possible, development in the east section of the site, and in particular the SNCI and supporting adjacent habitats, is avoided. The SNCI and supporting adjacent habitats should be retained and protected, except where loss is unavoidable, and only after an appropriate programme of mitigation, compensation and enhancement has been put in place. Where development is to take place in areas

adjacent to the SNCI a buffer zone should be designed in consultation with the Local Planning Authority and Sussex Wildlife Trust.

- Approximately 75% of the site is open farmland. Overall, it is considered to be of ecological value within a local context only due to the relatively low diversity of habitat types present and the dominance of arable fields, which are typically a habitat of limited ecological value. However, these farmland habitats do have potential to support species protected under UK and European legislation (see below). Two nationally scarce arable plants are also present - broad-leave spurge and spreading hedge parsley, the latter being a county rarity and UK BAP species.
- The site provides an important secondary and supporting role to the network of ecological receptors surrounding it, primarily by providing wildlife corridors for species moving across the urban-rural fringe into Sompting Strategic Gap and north towards the South Downs National Park.
- A range of UK BAP habitats/species are present or have potential to be present within the site. BAP habitats/species are not necessarily rare but under the National Planning Policy Framework (NPPF) 2012 and the Natural Environment and Rural Communities (NERC) Act 2006 are all of principal importance for the conservation of biodiversity and are of material consideration in the planning process. None of the BAP habitats or populations of BAP species currently known to be present on-site are considered as notable or exceptional examples of their type.
- Further surveys are recommended for breeding birds, roosting and foraging bats, widespread species of reptile, badgers, invertebrates, arable plants, water vole and great crested newts. Details on further surveys, along with mitigation measures to minimise any adverse impacts on retained woodland/hedgerow/tree habitat, associated with arable and invasive plant species, and through the use of artificial lighting are presented in Section 5 of this report.
- The potential development of the site presents opportunities to improve it for wildlife; ecological considerations should be an integral part of masterplanning. Proposals for compensation and enhancement measures are provided in Section 5 of this report. These include, amongst other things, the use of Sustainable Drainage Systems including ponds, rain gardens and biodiverse green roofs, tree/scrub/hedgerow planting, landscape planting of recognised wildlife value, and artificial nesting/roosting opportunities for birds and bats.

1 Introduction

BACKGROUND

- 1.1 The Ecology Consultancy was commissioned by Sheils Flynn on behalf of Adur District Council (ADC) to prepare a Preliminary Ecological Appraisal (PEA) of Sompting Fringe on the edge of Sompting in West Sussex. This report forms part of the landscape and ecological survey of potential strategic allocations within Adur District being carried out by Sheils Flynn for the Council's emerging Local Plan.
- 1.2 The draft version of the Local Plan proposes two alternative housing targets, a number of different spatial options for new greenfield housing, identifies key employment sites, and a 'broad location' for mixed use development at Shoreham Harbour. There are a number of place based policies and development management policies. Consultation on the Local Plan will be undertaken 2012-2013 with adoption in 2014.
- 1.3 The six sites being considered for potential strategic allocations are as follows:
- Shoreham Airport
 - Sompting North
 - Sompting Fringe
 - New Monk's Farm
 - Land North-west of Hasler Estate
 - Land North-east of Hasler Estate
- 1.4 All six sites are located within 'Strategic Gaps'¹ and have been assessed in regards to potential development impacts on landscape features, landscape character and ecological value. A stand-alone PEA for each of these sites has been produced by The Ecology Consultancy with Landscape Assessments for each site produced by Sheils Flynn.

¹ Strategic Gaps are identified by Local Planning Authorities (LPAs) in their development documents as strategic areas of green field land which define and maintain the separate identity of a Borough/District's settlements. Both Sompting and Lancing Strategic Gaps are protected under the Strategic Gap policy (AC4) of Adur's adopted Local Plan (2006). They are referred to as Local Green Gaps in the emerging Local Plan. Due to the scale of government development targets it is highly likely that these areas will need to be redefined. This presents an opportunity to create new urban edges where masterplanning encourages a well designed built form and the provision of green infrastructure such as wildlife habitats, buffer zones and improved access to natural green space.

- 1.5 The ecology and landscape assessments have been combined to produce the *Landscape and Ecological Surveys of Key Sites within the Adur District Report* (Sheils Flynn, 2012, which should be read in conjunction with this PEA. This combined report uses the findings of both assessments to put forward indicative development principles for each of the potential allocations sites, including ecological opportunity and constraints mapping.

SCOPE OF REPORT

- 1.6 This report is based on a desk-top study and field survey using standard Phase 1 survey methodology (JNCC, 2010). This approach is designed to identify the broad habitat types present, to assess the potential of habitats to support protected species and to assist in providing an overview of the ecological interest at a site. It is generally the most widely used and professionally recognised method for initial ecological site appraisal.

SITE CONTEXT AND STATUS

- 1.7 This potential strategic allocation site is situated in Sompting Strategic Gap on the north-west edge of Sompting. It is located south of the Upper Brighton Road (A27) with its north and east boundaries adjacent to housing off West Street, Loose Lane and Western Road. Hamble Recreation Ground is adjacent to the north-east corner of the site. The west and south boundary are continuous with farmland in Sompting Strategic Gap. Loose Lane, a historic track, runs through the centre of the site.
- 1.8 The north, west and central sections of the site are dominated by open farmland. The east section of the site comprises a series of small fields with well defined boundaries orientated north to south. These boundaries connect to wetland habitats in the south-east corner of the site, which form part of Lower Cokeham Reedbed and Ditches Site of Nature Conservation Importance (SNCI). The SNCI is a non-statutory designated nature conservation site (see Table 1).
- 1.9 The National Grid Reference for the centre of the site is TQ 163 047 and includes an area of 15.5 hectares (ha).

DESCRIPTION OF THE PROPOSALS

- 1.10 Initial capacity work has indicated that between 250 and 420 new homes could potentially be provided. This potential is currently being investigated.

2 Methodology

DESK TOP STUDY

- 2.1 Information regarding protected and notable species, habitat, and areas within a 2km radius of the site was supplied by the Sussex Biodiversity Record Centre (SxBRC). In addition, a search was completed using an on-line mapping service for statutory designated sites and landscape features (MAGIC, 2012).

HABITAT SURVEY

- 2.2 The habitat survey following standard Phase 1 survey methodology (JNCC, 2010) was carried out on 31st July 2012 and covered all accessible parts of the site, including boundary features. Habitats were described and mapped. A list of plant species was compiled (Appendix 3), together with an estimate of abundance made according to the DAFOR² scale. A Habitat Plan of the site is included in Appendix 1 together with photographs in Appendix 2. Incidental records of birds and other fauna noted during the course of the habitat survey were also compiled.
- 2.3 In this report of these surveys, scientific names are given after the first mention of a species, thereafter, common names only are used. Nomenclature follows Stace (2010) for vascular plant species.

PROTECTED SPECIES ASSESSMENT

- 2.4 The potential of the site to provide habitat for protected species was assessed from field observations carried out at the same time as the habitat survey and the results of the desk top study. The site was inspected for evidence of the presence of protected species as follows:
- The presence of nesting habitat for breeding birds, such as mature trees, dense scrub, hedgerows and buildings and/or field margins suitable for ground nesting

² The DAFOR scale has been used to measure the frequency and cover of the different plant species as follows: Dominant (D) - >75% cover Abundant (A) – 51-75% cover Frequent (F) – 26-50% cover Occasional (O) – 11-25% cover Rare (R) – 1-10% cover. Locally Frequent (LF) is used where the frequency and distribution is irregular.

birds; and evidence of bird nesting including bird song, old nests, faecal marks etc;

- Scrub/grassland mosaic and potential hibernation sites for widespread species of reptile;
- Cover and topography suitable for badger *Meles meles* sett construction, as well as evidence of badger including runs, push-throughs, setts, hair and latrines;
- Assessment of water bodies, such as ditches and streams as to their potential to support water vole *Arvicola amphibius*;
- Diversity/heterogeneity of habitat types with varied structure and mixture of foraging plant resources suitable for invertebrates;
- Assessment of any on-site water bodies as to their potential to support breeding amphibians specifically great crested newts *Triturus cristatus*, and suitable terrestrial habitats including rough grassland, scrub, hedgerows, woodland and refuges (logs and rubble piles); and,
- The presence of features in, and on trees, indicating potential for roosting bats such as fissures, holes, loose bark and ivy and those associated with buildings such as cavities, roof voids, hanging tiles, unenclosed soffits etc. Direct evidence such as the presence of bats, staining, droppings and feeding remains was also looked for.

2.5 The likelihood of occurrence is ranked as follows and relies on the findings of the current survey and an evaluation of existing data.

- **Negligible** – while presence cannot be absolutely discounted, the site includes very limited or poor quality habitat for a particular species or species group. No local records from a data search, surrounding habitat considered unlikely to support wider populations of a species/species group. The site may also be outside or peripheral to known national range for a species.
- **Low** – on-site habitat of poor to moderate quality for a given species/species group. Few or no records from data search, but presence cannot be discounted on the basis of national distribution, nature of surrounding habitats, habitat fragmentation, recent on-site disturbance etc.
- **Medium** – on-site habitat of moderate quality, providing all of the known key requirements of given species/species group. Local records from the data search, within national distribution, suitable surrounding habitat. Factors limiting the likelihood of occurrence may include small habitat area, habitat severance, and disturbance.

- **High** – on-site habitat of high quality for given a species/species group. Local records provided by desk-top study. The site is within/peripheral to a national or regional stronghold. Good quality surrounding habitat and good connectivity.
- **Present** – presence confirmed from the current survey or by recent, confirmed records.

2.6 The purpose of this assessment is to identify whether more comprehensive Phase 2 surveys for protected species or mitigation should be recommended (see Section 5).

2.7 The potential presence of invasive species including those listed in Section 14 and Part 2 of Schedule 9 of the Wildlife and Countryside Act (1981) has also been considered.

SITE EVALUATION

2.8 The site has also been evaluated following guidance issued by the Institute of Ecology and Environmental Management (2006) which evaluates sites according to geographic scale (significance at the international level down to the local level) and uses a range of criteria for assigning ecological value, as follows:

- Presence of sites or features designated for their nature conservation interest. Examples include internationally or nationally designated sites such as Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSIs) and Local Nature Reserves (LNRs) and locally designated sites such as SNCIs;
- Biodiversity value, for example, habitats or species which are rare or uncommon, species rich assemblages, species which are endemic or on the edge of their range, large populations or concentrations of uncommon or threatened species, and/or plant communities that are typical of valued natural/semi-natural vegetation types;
- Secondary and supporting value, for example, habitats or features which provide a green infrastructure role such as buffering to valued features or links between otherwise isolated features;
- Social value in regard to the extent to which a site and its wildlife provide a resource that people use or enjoy;
- Economic value for example those relating to impacts on ecological features and resources that are financially viable such as paying for visits to bird hides or a shell fishery in an estuary;

- Presence of legally protected sites or species; and
- Presence of UKBAP, and/or Sussex BAP habitats and species.

GREEN INFRASTRUCTURE APPRAISAL

2.9 A Green Infrastructure (GI) appraisal was carried out, by reviewing the following features, present either on-site or in the adjacent landscape:

- Core Areas that are defined as zones within the site with either high quality habitat, a diversity of habitats, potential to support a diversity of species groups and/or protected species;
- Water bodies and the local hydrological catchment;
- Existing green and blue corridors including hedgerows, lines of scattered trees/scrub, woodland belts, road verges, running water and associated riparian habitat etc., and;
- Public Rights of Way (PROW) including footpaths, cycle routes and bridleways.

2.10 This information has been used to produce Opportunities and Constraints Maps in the *Landscape and Ecological Surveys of Key Sites within the Adur District* report (see Section 5). These maps show priorities for the conservation and enhancement of on-site ecological features and wider ecological networks and assist in forming indicative GI and development principles for the site.

LIMITATIONS

2.11 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation and prediction of the natural environment.

Data Search

2.12 It is important to note that, even where data is held, a lack of records for a defined geographical area does not necessarily mean that there is a lack of ecological interest the area may simply be under-recorded.

2.13 Where only six figure grid references are provided for protected species by recorders submitting data to SxBRC, their precise location can be difficult to determine and they could potentially be present anywhere within the given 1km x 1km square.

2.14 Locations for badger, otter and breeding Schedule 1 bird species were not provided by SxBRC due to the sensitivity of these records.

Habitat Survey

2.15 The Phase 1 habitat survey does not constitute a full botanical survey, or a Phase 2 pre-construction survey that would include accurate GIS mapping for invasive or protected plant species.

Protected Species Assessment

2.16 The protected species assessment provides a preliminary view of the likelihood of protected species occurring on the site. This is based on the suitability of the habitat, known distribution of the species in the local area provided in response to our enquiries and any direct evidence on the site. It should not be taken as providing a full and definitive survey of any protected species group. It is only valid at the time the survey was carried out. Additional surveys may be recommended if on the basis of the preliminary assessment or during subsequent surveys it is considered reasonably likely that protected species may be present.

3 Results

DESK STUDY

- 3.1 The following information regarding the present and historical ecological interest of Sompting Fringe, covering a 2km radius search area, was supplied by Sussex Biodiversity Records Centre (SxBRC) and on-line mapping services.

Designated Nature Conservation Sites

- 3.2 The site does not receive any statutory³ or non-statutory⁴ nature conservation designations. The nearest statutory designated site is Lancing Ring LNR (and SNCI), located 1.4km to the north-east of the site (see citation summary Table 1). Cissbury Ring SSSI is located 1.9km to the north-west of the site.

Table 1: Lancing Ring LNR

Citation Summary
Much of the 24.3ha site consists of unmanaged grassland with scattered scrub. Coarse grasses dominate the sward with characteristic downland herbs such as squinancywort <i>Asperula cynanchica</i> and round-headed rampion <i>Phyteuma orbiculare</i> . There are localised patches of herb-rich sward on the shallow soils of the chalk pits. The horse-grazed pasture has an interesting chalk grassland flora with common restharrow <i>Ononis repens</i> , yellow rattle <i>Rhinanthus minor</i> and pyramidal orchid <i>Anacamptis pyramidalis</i> . The rich butterfly fauna includes breeding colonies of chalkhill blue <i>Lysandra coridon</i> , holly blue <i>Celastrina argiolus</i> , small copper <i>Lycaena phlaeas</i> , small heath <i>Coenonympha pamphilus</i> and wall brown <i>Lasiommata megera</i> . The rank grassland favours certain species such as the localised marbled white <i>Melanargia galathea</i> . Lancing Ring supports a good range of breeding warblers, including chiffchaff <i>Phylloscopus collybita</i> , willow warbler <i>Phylloscopus trochilus</i> , whitethroat <i>Sylvia communis</i> and lesser whitethroat <i>Sylvia curruca</i> , yellowhammer <i>Emberiza citrinella</i> , linnet <i>Carduelis cannabina</i> and cuckoo <i>Cuculus canorus</i> also breed. Adder <i>Vipera berus</i> , slow-worm <i>Anguis fragilis</i> and common lizard <i>Zootoca vivipara</i> are reported to occur.

³ Principally sites receiving protection under the Wildlife and Countryside Act, 1981 (as amended) and including Local Nature Reserves (LNR), Sites of Special Scientific Interest (SSSI), Special Areas of Conservation (SAC), Special Protected Areas (SPA), amongst others.

⁴ They typically comprise a series of sites designated a county level that are recognised to be of local conservation importance and are often included in Local Planning Authority (LPA) development plans. In other areas of the country they are sometimes called SINC (Sites of Importance for Nature Conservation), CWSs (County Wildlife Sites) or SBIs (Sites of Biological Importance). All are described generally as Local Wildlife sites by the UK Government.

3.3 In total there are three non-statutory designated sites within a 2km radius of the site (see Table 3 below). The northern end of Lower Cokeham Reedbed and Ditches SNCI forms part of the south-east corner of the site (see Table 2 below). The majority of the SNCI is included on the Reedbed Biodiversity Action Plan (BAP) Priority Habitat Inventory (MAGIC, 2012).

Table 2: Lower Cokeham Reedbed and Ditches SNCI

Citation Summary
<p>This 6.2ha site consists of an area of reedbed and tall fen, which is crossed and bordered by wet ditches. It is of considerable importance for wildlife as it is an area of semi-natural habitat, which is especially valuable for birds, such as warblers and starlings <i>Sturnus vulgaris</i>, located on the edge of a heavily built-up area.</p> <p>The reedbed is dominated by common reed <i>Phragmites australis</i> and great willowherb <i>Epilobium hirsutum</i>, with patches of meadowsweet <i>Filipendula ulmaria</i> and reed canary-grass <i>Phalaris arundinacea</i>. Bramble <i>Rubus fruticosus</i> agg., creeping thistle <i>Cirsium arvense</i> and bittersweet <i>Solanum dulcamara</i> occur in drier areas. Hawthorn <i>Crataegus monogyna</i>, elder <i>Sambucus nigra</i> and crack willow <i>Salix fragilis</i> scrub is scattered, or lines the ditches, and there is a wooded strip along the eastern boundary.</p> <p>The ditches mostly contain water. Reed canary-grass and hairy willowherb are locally dominant. Herbs such as water-cress <i>Nasturtium officinale</i>, brooklime <i>Veronica beccabunga</i>, gipsywort <i>Lycopus europaeus</i>, water mint <i>Mentha aquatica</i>, fool's water-cress <i>Apium nodiflorum</i>, water forget-me-not <i>Myosotis scorpioides</i> and celery-leaved buttercup <i>Ranunculus sceleratus</i> occur in more open ditches. Branched bur-reed <i>Sparganium erectum</i>, floating sweet-grass <i>Glyceria fluitans</i> and marsh foxtail <i>Alopecurus geniculatus</i> also occur.</p> <p>The reedbed appears to be drying out and management recommendations include raising the water table to prevent this. Cutting vegetation on a rotational basis to encourage vigorous new growth of reeds, and provide more structural diversity is also prescribed.</p>

Table 3: SNCIs within a 2km radius of the site

Site Name	Reason for designation	Area (ha)	Distance from Site (km)
Lower Cokeham Reedbed and Ditches	See Table 2 above for site description	6.2	on-site
Lancing Ring (also LNR)	See Table 1 above for site description.	24.3	1.4
Tenants Hill and Reservoirs	Tenants Hill has a steep east-facing slope of species-rich unimproved chalk grassland. The two covered reservoirs have developed surprisingly rich chalk grassland floras. Small areas of species-rich grassland occur adjacent to both reservoirs. The flora immediately east of the southern reservoir is of exceptional interest. There are small herb-rich glades within the belt of scrub linking the two reservoirs.	16.8	1.9

Landscape and Habitat Designations/Classifications

National Parks

- 3.4 The South Downs National Park is located 0.38km north of the site on the opposite side of the Upper Brighton Road (A27).

Ancient Woodland

- 3.5 The landscape surrounding the site is very open in character and there are no areas of Ancient Semi-Natural Woodland (ASNW) within a 2km radius. The nearest ASNW is Clapham Wood ANSW located approximately 5.5km to the west of the site.

Biodiversity Opportunity Areas

- 3.6 The distribution of BAP habitats present across the South-East has been used to identify Biodiversity Opportunity Areas (The South East Biodiversity Forum, 2009). BOAs represent a targeted landscape-scale approach to biodiversity conservation in the county, form the basis for an ecological network and opportunity for restoration and creation of BAP habitats⁵. There are 75 BOAs across Sussex and 6 within Adur District.
- 3.7 The site does not fall within a BOA. The nearest BOA is North-East Worthing Downs BOA located 855m to the north of the site. This area borders the urban area of Worthing and contains the well known downland hill fort of Cissbury Ring (a SSSI owned and managed by the National Trust). The area extends further to cover neighbouring areas of chalk grassland. Opportunities identified for the BOA that are potentially relevant to the site include chalk grassland creation, and farming that is sympathetic to farmland birds and important arable plants. Farming that is sympathetic to important arable plants is potentially applicable to the site.

Water bodies

- 3.8 There are areas of running water (ditches and reedbed) and wet grassland, and woodland in the east section of the site. The ditches flow south through Lower Cokeham Reedbed and Ditches SNCI and under the South Coast Railway Line to

⁵ BOAs do not include opportunities for all BAP habitats present in the region or identify all areas where these could be applied. Work is still needed to develop opportunity areas in urban and marine environments in particular.

converge with Teville Stream. Teville Stream flows south-east into Brooklands Lake before outfall into the sea. The site, therefore, forms part of the local hydrological system.

3.9 The nearest standing water marked on a 1:50,000 OS map is a pond located in farmland 90m west of the site. At the time of the PEA this pond was dry and had become vegetated. Aerial photography also indicates that two ponds are present in gardens adjacent to the site, but their status cannot be fully determined. These are in properties off Peverill Drive (30m away) and Ullswater Close (10m away).

3.10 A series of drainage ditches are also present in Sompting Strategic Gap, approximately 100m west of the site. These form part of the series of interconnected wetland habitats described above.

Records of Protected and BAP Species

3.11 SxBRC have supplied records from within a 2km radius for protected and rare species, those covered by the UK BAP (that are also Species of Principal Importance for Biodiversity under the NERC⁶ Act (2006), invasive species and otherwise notable species such as Birds of Conservation Concern⁷ (BoCC).

Plants

3.12 The data search returned records of 18 plant species, the majority being either associated with habitats not present at the site, such as chalk grassland and/or are not nationally rare or scarce plants. Instead they are uncommon/rare in the county and included on the Sussex Rare Species Inventory Species.

⁶ Section 41 (S41) of the NERC Act (2006) includes a published list of habitats and species which are of principal importance for the conservation of biodiversity in England. It is used to guide decision-makers such as LPAs in implementing their duty under section 40 of the NERC Act (2006), to have regard to the conservation of biodiversity in England, when carrying out their normal functions. Further details of the NERC Act can be found at: www.opsi.gov.uk/acts/acts2006/ukpga_20060016_en_1 (see Chapters 16 and 17).

⁷ Birds of Conservation Concern status is prioritised into high concern (Red), medium concern (Amber) and low concern (Green) (Eaton *et al*, 2009). Red-list species are those that are globally threatened according to the IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and have not shown a substantial recent recovery. Amber-list species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations. Green-list species are those that fulfill none of the criteria.

3.13 The only aquatic plant listed is hairlike pondweed *Potamogeton trichoides*, which is commonly found in ponds and smaller, more species-rich ditches, often with moderately calcareous water. It is fairly common in the Arun Valley between Arundel and Pulborough.

Invertebrates

3.14 180 invertebrate species records were returned, most being species of butterfly and moth. A large percentage of these are species associated with habitats not present within the site and/or are not nationally rare or scarce. Instead they are uncommon/rare at a county level and included on the Sussex Rare Species Inventory.

3.15 There were 10 records between 2000 and 2011 for stag beetle *Lucanus cervus*, the closest being a 2008 record for a site 0.4km east of the site.

3.16 The following UK BAP moth species have been recorded at Lower Cokeham Reedbed and Ditches SNCI; blood-vein *Timandra comae*, buff ermine *Spilosoma luteum* and rustic *Hoplodrina blanda*.

Birds

3.17 There was a large number of bird records (4500) returned for the search area. The following species have been recorded on-site and within the Sussex Ornithological Society 1x1km recording square that covers Sompting Fringe; blackbird *Turdus merula*, blue tit *Cyanistes caeruleus*, collared dove *Streptopelia decaocto*, swift *Apus apus*, great tit *Parus major*, greenfinch *Carduelis chloris*, magpie *Pica pica*, nuthatch *Sitta europaea*, pied wagtail *Motacilla alba subsp. yarrellii*, robin *Erithacus rubecula*, woodpigeon *Columba palumbus*, barn owl *Tyto alba*, swallow *Hirundo rustica*, blackcap *Sylvia atricapilla*, chiffchaff *Phylloscopus collybita*, common redstart *Phoenicurus phoenicurus*, snipe *Gallinago gallinago*, corn bunting *Emberiza calandra*, goldfinch *Carduelis carduelis*, grey heron *Ardea cinerea*, grey partridge *Perdix perdix*, grey wagtail *Motacilla cinerea*, hobby *Falco subbuteo*, house martin *Delichon urbicum*, lesser spotted woodpecker *Dendrocopos minor*, lesser whitethroat *Sylvia curruca*, meadow pipit *Anthus pratensis*, wheatear *Oenanthe oenanthe*, peregrine falcon *Falco peregrinus*, pied wagtail *Motacilla alba*, redwing *Turdus iliacus*, ring ouzel *Turdus torquatus*, sand martin *Riparia riparia*, siskin *Carduelis spinus*, skylark *Alauda arvensis*, spotted flycatcher *Muscicapa striata*, stonechat *Saxicola torquata*, tree sparrow *Passer montanus*, whinchat *Saxicola rubetra*, wood warbler *Phylloscopus sibilatrix*, yellow wagtail *Motacilla flava*.

3.18 BoCC Red List species include; skylark, redwing, grey partridge, ring ouzel, wood warbler, lesser spotted woodpecker, corn bunting, spotted flycatcher, tree sparrow, yellow wagtail. These species are also UK BAP species (JNCC, 2010) and listed in the NERC Act (2006) as species of principal importance for the conservation of biodiversity. BoCC Amber List species include; barn owl, snipe, grey wagtail, house martin, swallow, swift, common redstart, meadow pipit, wheatear, pied flycatcher, sand martin, whinchat. A number of these notable bird species are either passage migrants, winter birds or utilise the site as foraging habitat. Not all the species will be dependent on the site as breeding habitat.

Bats

3.19 No bat records were returned for the site. There are records of three different bat species within the search area including; serotine *Eptesicus serotinus*, Nathusius's pipistrelle *Pipistrellus nathusii* and noctule *Nyctalus noctula*, as well as unidentified pipistrelle *Pipistrellus* species. The record closest to Sompting Fringe is of a pipistrelle species foraging 1.1km north-east of the central section of the site.

Reptiles

3.20 No records of reptiles were returned from the site. The following reptile species were recorded within the 2km search area:

- Forty five slow worm records, the closest being a 2010 record 375m to the east of the site;
- Twelve common lizard records, the closest being a 2004 record 812m south-west of the site;
- Seventeen records of grass snake *Natrix natrix*, the closest being a 1993 record 820m to the south-west of the site; and,
- Four adder records, the closest being a 1998 record 1km north-east of the site.

Amphibians

3.21 No records of amphibians were returned from the site or any great crested newt records within a 2km radius.

3.22 There were eighteen records of common toad *Bufo bufo* returned from within the search area, the closest being a 1996 record at Griffith Avenue, Lancing, 470m to the north-east of the site.

Water vole

- 3.23 There was one on-site record for water vole returned from 2002 at Lower Cokeham Reedbed and Ditches SNCI which forms part of the south-east corner of the site.

Invasive species

- 3.24 The data search returned a number of records for invasive plant species that may potentially be present within the site. Invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) that are most likely to be present within on-site habitats are three-cornered garlic *Allium triquetrum*, Japanese knotweed *Fallopia japonica*, giant hogweed *Heracleum mantegazzianum* and montbretia *Crocsmia x crocosmiiflora*.

HABITAT SURVEY

Overview

- 3.25 The north and west section of the site was dominated by arable fields with margins of poor semi-improved grassland. The east section comprised a series of small fields with a mosaic of habitat types present around the field boundaries. Wetland habitats were present in the south-east corner, where the site is continuous with Lower Cokeham Reedbed and Ditches SNCI.
- 3.26 Habitats on-site included; buildings, hardstanding, bare ground, arable, improved and poor semi-improved grassland, tall ruderal vegetation, ephemeral/short perennial vegetation, running water, marginal vegetation, swamp (reedbed), introduced shrub, continuous and scattered scrub, scattered trees, native and non-native hedgerows and broad-leaved semi-natural woodland (wet woodland).

Buildings

- 3.27 Nine structures were present in the north-east corner of the site. These were associated with the horse paddocks and comprised wooden stables, storage sheds, horse boxes, static vehicles and caravans.

Hardstanding, bare ground and ephemeral/short perennial vegetation

- 3.28 Tracks with both a hard surface and compacted bare ground were present in the east section of the site. Ephemeral/short perennial species present on tracks included abundant to frequent pineappleweed *Matricaria discoidea*, annual meadow grass *Poa annua*, knotgrass *Polygonum aviculare* and greater plantain *Plantago major*.

Arable and arable weed communities

3.29 Fields in the north, west and central sections of the site comprised bread wheat *Triticum aestivum*. Arable weeds were present around field edges, between crop rows and in areas of failed crop. Species included locally abundant to frequent knotgrass, scentless mayweed *Tripleurospermum inodorum*, wild radish *Raphanus raphanistrum* scarlet pimpernel *Anagallis arvensis*, wild oat *Avena fatua*, fat-hen *Chenopodium album*, field horsetail *Equisetum arvense* and common vetch *Vicia sativa ssp. segetalis*. Two nationally scarce arable weeds were also recorded (see Target Note 13 and 14 below).

Improved grassland

3.30 All but one of the small fields, present in the east section of the site, was improved grassland. Horses were being kept on all fields and due to over grazing and poaching of wet ground a high amount of tall ruderal and ephemeral/short perennial species were present.

3.31 Grasses included dominant perennial ryegrass *Lolium perenne*, abundant annual meadow grass and frequent cock's-foot *Dactylis glomerata*. Wildflowers included abundant to locally frequent knotgrass, greater plantain, white clover *Trifolium repens*, creeping buttercup *Ranunculus repens*, lesser swine-cress *Coronopus didymus*, black medick *Medicago lupulina*, daisy *Bellis perennis*, dandelion *Taraxacum agg.* and chickweed *Stellaria media*. An ephemerally wet area contained locally frequent tubular water-dropwort *Oenanthe fistulosa* (see Target Note 7).

Poor semi-improved grassland and tall ruderal vegetation

- 3.32 Grass margins around arable fields comprised abundant false oat-grass *Arrhenatherum elatius* and common nettle *Urtica dioica*, and locally abundant to frequent cock's-foot, wild oat, scentless mayweed and cow parsley *Anthriscus sylvestris*.
- 3.33 Grass banks were present alongside the historic trackway (Loose Lane) that runs through the centre of the site. Dominant to locally frequent species included perennial rye-grass, creeping bent *Agrostis stolonifera*, common couch *Elytrigia repens* and Timothy *Phleum pratense*.
- 3.34 The field north of Lower Cokeham Reedbed and Ditches SNCI had a similar composition to areas of adjacent improved grassland, but was more diverse with species such as self-heal *Prunella vulgaris*, slender trefoil *Trifolium micranthum* and thyme-leaved speedwell *Veronica serpyllifolia* locally frequent. Wet flushes also comprised locally abundant white clover, fool's watercress *Apium nodiflorum*, redshank *Persicaria maculosa*, fleabane *Pulicaria dysenterica*, toad rush *Juncus bufonius* and brooklime *Veronica beccabunga* (see Target Note 12).
- 3.35 Areas of tall-ruderal vegetation comprising fat-hen, broad-leaved dock *Rumex obtusifolius*, lesser burdock *Arctium minus* and common ragwort *Senecio jacobaea* were locally abundant to frequent in the small fields. Scrub formed the boundary between these fields, where tall ruderal vegetation was also present, with common nettle locally abundant and large bindweed *Calystegia silvatica* and hemp-agrimony *Eupatorium cannabinum* locally frequent, the latter present where ditches formed part of the boundary.
- 3.36 Tall ruderal vegetation that had become self-established on a mound of imported substrate (see Target Note 10) included abundant common nettle and creeping thistle and frequent large bindweed and mugwort *Artemisia vulgaris*. Other species included stone parsley *Sison amomum*, fennel *Foeniculum vulgare*, meadow vetchling *Lathyrus pratensis* and wild marjoram *Origanum vulgare*.
- 3.37 A similar area of self-established vegetation near to the entrance to the small fields included frequent to occasional creeping bent, Yorkshire fog *Holcus lanatus*, bristly ox-tongue *Helminthotheca echioides*, purple toadflax *Linaria purpurea* and hoary willowherb *Epilobium parviflorum* (see Target Note 8).

Running water, marginal vegetation and swamp

3.38 Swamp was present in the south-east corner of the site adjacent to Lower Cokeham Reedbed and Ditches SNCI and was dominated by common reed. A series of ditches ran alongside the swamp and field boundaries. Marginal vegetation comprised locally dominant watercress, and locally abundant to frequent fool's watercress, brooklime, branched bur reed, meadowsweet, great willowherb, plicate sweet-grass *Glyceria notata*, marsh woundwort *Stachys palustris* and purple loosestrife *Lythrum salicaria* (see Target Notes 6 and 11).

Introduced shrubs, scrub and scattered trees

3.39 Bramble was locally frequent in grass margins around arable fields. It was the dominant component of boundary habitats in the east section of the site, along with locally abundant to frequent elder, hawthorn, ivy *Hedera helix* and English elm *Ulmus procera*.

3.40 A continuous line of scattered trees and dense scrub linked Hamble Recreation Ground to wetland habitats in the south-east corner of the site (see Target Note 9). Mature hybrid black poplar *Populus x canadensis* was locally dominant.

3.41 A mosaic of scrub, tall ruderal vegetation and poor semi-improved grassland had become self-established (with some planted elements) on a mound of imported substrate (see Target Note 10). Scrub/shrub species included abundant bramble and frequent butterfly bush *Buddleja davidii*. Other species included dogwood *Cornus sanguineus*, snowberry *Symphoricarpos albus* and Rose-of-Sharon *Hypericum calycinium*. Butterfly bush was locally frequent in similar areas of self-established vegetation in this section of the site.

3.42 A number of introduced shrubs had been planted along boundaries where gardens backed onto the site. Species included lilac *Syringa vulgaris*, escallonia *Escallonia macrantha* and Japanese rose *Rosa rugosa* (see Target Note 5).

Hedgerows

3.43 A short section of non-native hedgerow, present along the north boundary, comprised garden privet *Ligustrum ovalifolium* and Leyland cypress *X Cupressocyparis leylandii*.

3.44 The species-poor native hedge adjacent to Hamble Recreation Ground was dominated by hawthorn with abundant to frequent elder, ivy, bramble and large

bindweed. The hedges in the north section of the site were gappy, species-poor and also dominated by hawthorn.

- 3.45 The species-poor native hedge adjacent to Floriandia Close was dominated by field maple *Acer campestre* and hazel *Corylus avellana*.

Woodland

- 3.46 A small area of broad-leaved semi-natural woodland was present in the south-west corner of the site, forming part of Lower Cokeham Reedbed and Ditches SNCI. It was typical of wet woodland being dominated by crack willow and with a raised water table. Bramble was abundant and elder locally frequent in the shrub layer. Ivy was locally abundant on willow trees. The ground flora comprised locally abundant to frequent common nettle, creeping buttercup, water forget-me-not, brooklime, wood meadow grass *Poa nemoralis*, square-stalked St. John's-wort *Hypericum tetrapterum* and wavy bitter-cress *Cardamine flexuosa*, Deadwood material was frequent. The non-native yellow-flowered strawberry *Duchesnea indica* was locally frequent to the south.

Target Notes

Target Note 1

- 3.47 Escaped garden plants in field margins including suckering stag's horn sumac *Rhus typhina*.

Target Note 2

- 3.48 Giant hogweed located in two areas within the arable field. An invasive plant species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

Target Note 3

- 3.49 Evidence of both fox *Vulpes vulpes* (scat and prints) and badger (prints).

Target Note 4

- 3.50 Nesting skylark flushed from adjacent area of arable.

Target Note 5

- 3.51 Japanese rose located along field boundary. An invasive plant species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

Target Note 6

- 3.52 Marginal vegetation at edge of reedbed comprising locally dominant watercress, and locally abundant to frequent meadowsweet, marsh woundwort, great willowherb and purple loosestrife.

Target Note 7

- 3.53 Ephemeral wet grassland with tubular water-dropwort locally frequent.

Target Note 8

- 3.54 Brick piles, waste materials, wood chip and arisings of potential value to hibernating and basking species of widespread reptiles. A mosaic of self-established vegetation types had become established in these locations.

Target Note 9

- 3.55 Line of scattered trees and scrub with mature hybrid black poplar locally dominant. Good quantities of standing deadwood present of potential value to saproxylic invertebrate species such as stag beetle – with anecdotal evidence of their presence at the site. Features of potential value to roosting bats include splits in limbs and dense ivy covering. There is also anecdotal evidence of small owls using the hybrid black poplars with owl boxes installed.

Target Note 10

- 3.56 Mound of imported substrate with range of chalk loving scrub and wildflowers species. Provides good foraging opportunities for invertebrates.

Target Note 11

- 3.57 Marginal vegetation in wet woodland comprising locally dominant common duckweed *Lemna minor*, locally abundant water forget-me-not, occasional common reed, yellow iris *Iris pseudoacorus* and square-stalked willowherb *Epilobium tetragonum*

Target Note 12

- 3.58 Wet flushes in poor semi-improved grassland grading into marginal vegetation present alongside ditches and reedbed.

Target Note 13

- 3.59 One individual specimen of the arable plant, broad-leaved spurge *Euphorbia platyphyllos*, located at National Grid Reference 516524 104723. A nationally scarce⁸ plant.

Target Note 14

- 3.60 Four individual plants of spreading hedge-parsley *Torilis arvensis*, located at National Grid 516529 104779. A Sussex⁹ and nationally scarce arable plant.

Fauna

- 3.61 Thirteen bird species were recorded during the PEA. Additional species, to those already recorded at the site (see Section 3.17) included; house sparrow *Passer domesticus*, herring gull *Larus argentatus*, little owl *Athene noctua* (anecdotal evidence), buzzard *Buteo buteo*, kestrel *Falco tinnunculus*, little egret *Egretta garzetta* and garden warbler *Sylvia borin*.
- 3.62 House sparrow and herring gull are BoCC Red List and UK BAP species and listed in the NERC Act (2006) as species of principal importance for the conservation of biodiversity. Kestrel and little egret are BoCC Amber List species.
- 3.63 The site also provided suitable habitat for large and small mammals. Evidence of the presence of fox, badger, mole *Talpa europaea* and rabbit *Oryctolagus cuniculus* were observed during the survey.
- 3.64 A common frog was seen in the south-east corner of the site during the PEA and anecdotal evidence from residents living on Peverill Drive, indicates the presence of smooth newt *Lissotriton vulgaris*, in a garden pond 30m east of the site boundary.
- 3.65 The following butterflies were recorded during the PEA; large white *Pieris brassicae*, red admiral *Vanessa atal*, meadow brown *Maniola jurtina* and speckled wood *Pararge*

⁸ Nationally scarce plants appear in *Scarce Plants in Britain* (Stewart *et al.* 1994) and occur in 16-100 of the 10x10km grid squares throughout Britain. This category includes some species which occur in more than four sites in either vice county.

⁹ Sussex scarce plants occur in less than four sites in either vice county (Briggs (Ed.), 2001).

aegeria. Anecdotal evidence from the tenant of the small fields, indicates the presence of stag beetle.

PROTECTED AND INVASIVE SPECIES ASSESSMENT

3.66 The habitats at the site were evaluated as to their likelihood to provide sheltering, roosting, nesting and foraging habitat for the following species/species groups:

- Breeding birds;
- Reptiles;
- Bats;
- Water vole;
- Invertebrates;
- Badgers; and,
- Great crested newt.

3.67 These species were selected for further consideration because the results of the desk study revealed that they occur in the vicinity of Sompting Fringe and potentially suitable habitat is present within the site. The results of the field survey, combined with information from the desk study, are presented in Table 3 below. The relevant legislation and policies relating to protected species is presented within Appendix 4.

Table 3: Assessment of potential presence of invasive, protected and/or BAP priority and notable species at the proposed development site

Species	Main legislation and policy (see Appendix 4)	Reason for consideration	Likelihood of occurrence
Breeding birds	Wildlife and Countryside Act 1981 (as amended) – selected species Schedule 1 and 8	Site located in Sompting Strategic Gap with large area of countryside to the east and north. Domestic gardens, adjacent to north and east boundary, may extend available habitat. On-site woodland, hedgerow, scrub, trees, reedbed and arable fields provide potential nesting and foraging habitat. The PEA and data search confirms 48 species present on-site.	HIGH. Suitable breeding habitat present on-site for a wide range of species including those requiring tree/scrub and ground cover for nest building. Nesting skylark flushed from arable field (see Target Note 4). Potential is strongly associated with the east section of the site and the adjacent Lower Cokeham Reedbed and Ditches SNCI due to the greater diversity of habitats present, including reedbed.
Widespread reptile species	Wildlife and Countryside Act, 1981 (as amended) -Schedule 5 (partial protection)	Field boundaries, long grassland and habitat mosaics provide suitable hibernation sites and foraging habitat for species such as slow worm and common lizard. On-site wetland habitat may also support grass snake. Domestic gardens adjacent to the north and east boundary may extend available habitat. There are records for all four widespread species from the data search area, the closest being for slow worm, 375m to the east.	HIGH. The arable fields have negligible potential for reptiles as they are regularly disturbed, have poor structure and are of low plant diversity. Field margins are potentially suitable especially where they border hedges and gardens. The area of greatest value is the east section of the site where a diverse range of well structured, terrestrial and aquatic habitats are present. Waste piles of value for hibernating and egg-laying are also present (see Target Note 8). This part of the site has good connectivity to suitable areas of off-site habitat to the south (SNCI) and east (large gardens).
Badger	Protection of Badgers Act 1992.	A widespread species in the UK, ranging over large distances. The site is located in Sompting Strategic Gap in close proximity to farmland which is a preferred location for badger populations. Hedgerows, grassland, scrub and woodland provide suitable foraging and breeding habitat.	PRESENT. Sett building habitat is present on-site. Field margins and small fields provide a large area of suitable foraging habitat. Evidence of a sett was found in the scrub along the east boundary of the arable fields. Footprints were found in the arable fields near to the west boundary.
Great crested newt	Wildlife and Countryside Act 1981 (as amended) -Schedule 5. The Conservation of Habitats and Species Regulations 2010 (as amended) - Schedule 2.	Lakes, pond and seasonally wet areas provide suitable breeding habitat for great crested newt. Woodland, hedgerows, scrub and tall grass provide suitable terrestrial habitat for foraging and hibernating amphibians.	MEDIUM. The east section of the site provides good quality terrestrial habitat. On-site breeding habitat includes ephemeral wet grassland and ditches, but these are considered sub-optimal. 1:50,000 OS and aerial maps show that there are three pond that potentially provide suitable breeding habitat for great crested newt within a distance of 500m of the site boundaries. One of these ponds (90m west) was dried up and had become vegetated. The

Table 3: Assessment of potential presence of invasive, protected and/or BAP priority and notable species at the proposed development site

Species	Main legislation and policy (see Appendix 4)	Reason for consideration	Likelihood of occurrence
			other ponds are in gardens (10m and 30 east), but their status cannot be fully determined, without ground truthing.
Bats	Wildlife and Countryside Act 1981 (as amended) - Schedule 5. The Conservation of Habitats and Species Regulations 2010 (as amended) - Schedule 2.	Buildings and mature/semi-mature trees provide suitable roosting habitat. Woodland and boundary features such as hedgerows and scrub/tree lines provide suitable foraging and commuting habitat. The site is located in Sompting Strategic Gap with connectivity to open countryside to the west and domestic buildings to the north and east. 9 structures are present on-site. Four species of bat have been recorded within a 2km radius.	HIGH. Apart from the structures comprising Building 2 all other wooden structures and static vehicles has negligible potential for bats. Mature hybrid black poplar trees in the west section of the site provide features of high value to roosting bats such as split limbs and dense ivy growth. All remaining on-site trees were generally too young to contain potential roosting features. On-site buildings presented limited opportunities for bat roosts, generally lacking suitable features such as roof voids, soffits, tiles etc. Dense ivy growth on. Grassland, field margins, wet woodland, hedgerows and tree-lined boundaries provide suitable foraging and commuting habitat that has connectivity to the wider landscape.
Invertebrates	69 species are protected by the Wildlife and Countryside Act, 1981 (as amended), including 25 butterflies.	The site comprises a range of habitat types providing a variety of foraging and nesting opportunities for both widespread and uncommon insect species. Ten records for stag beetle, the closest being within a 2km radius, the closest being 0.4km east.	HIGH/PRESENT. Whilst the majority of the site (arable fields) is of limited value to invertebrates the east section provides a variety of terrestrial and aquatic habitats. Resources include abundant fallen deadwood in the wet woodland, standing deadwood on hybrid black poplars, grassland/tall ruderal mosaics, nectar rich plants and open ground/mixed substrates (for xeric species). Areas of open water are also present in the form of wet flushes, ditches and swamp. Anecdotal evidence of stag beetle being present in the east section of the site.
Water vole	Wildlife and Countryside Act 1981 (as amended); Schedule 5.	Water courses within Sussex support populations of this species. Ditches present on-site providing areas of bank above water level with cover from marginal vegetation. 2002 record at Lower Cokeham Reedbed and Ditches SNCI which forms part of the south-east corner of the site.	PRESENT. No specific survey for water voles and their signs was undertaken. On-site habitat restricted to the east section of the site where ditches and reedbed are connected to a wider network of suitable off-site habitat located to the south in the SNCI. Woodland ditch heavily shaded and considered sub-optimal (see Target Note 11). Remaining on-site ditches had suitable vegetation cover, food plants and areas of open water.
Invasive plant species	Section 14 and Part II of Schedule 9 of the Wildlife and Countryside Act 1981 (as amended)	Invasive species are widespread in many habitats and commonly found on disturbed sites, old gardens and herb/grassland/scrub mosaics around woodland and stream/ditch edges. A number of commonly planted	PRESENT. Giant hogweed present in arable fields and Japanese rose present along field boundary (see Target Notes 2 and 5). No other Schedule 9 species were recorded during the survey, however this does not preclude the possibility of their presence.

Table 3: Assessment of potential presence of invasive, protected and/or BAP priority and notable species at the proposed development site

Species	Main legislation and policy (see Appendix 4)	Reason for consideration	Likelihood of occurrence
		ornamental species are on the Schedule 9 list.	

4 Evaluation

- 4.1 On the basis of the information available from the PEA, data search and review of national and regional BAPs, the site has been evaluated in terms of its potential for biodiversity, support of protected species and habitats, and the contribution the area makes as part of the wider landscape. The nature conservation value of the site has been assessed following standard criteria developed by IEEM (2006) and is provided in Table 4 below.
- 4.2 The biodiversity value of protected and BAP species within the site is a preliminary evaluation based upon the desk study records, habitat suitability and the conservation status of the species in question. It should be noted that where European Protected Species or BAP species are present on-site they may be valued at a lower level/scale where it is considered likely that populations would not be of sufficient importance to justify designation at a higher level. However, regardless of their biodiversity value, such species are still subject to national and/or European legislation.
- 4.3 Key aspects of relevant planning policy regarding conservation, including an explanation of species referred to as being of ‘Principal Importance for Conservation of Biodiversity’, European Protected Species and BAP species and habitats, are provided in Appendix 4.

Table 4: IEEM Evaluation

Criteria	Remarks
Features of International Importance	<ul style="list-style-type: none"> The site is not subject to any international statutory nature conservation designations. The closest site of International Importance is Arun Valley SAC, SPA and Ramsar Site located approximately 15km to the north-west. It is important for its wet meadows and ditches with surrounding woodland that support nationally important wintering wildfowl, breeding waders and rich aquatic flora and invertebrate fauna. It is one of the three main population centres for ramshorn snail <i>Anisus vorticulus</i> in the UK and is the main UK site for the BAP plant species cut-grass <i>Leersia oryzoides</i>. No floodplain meadow or ditch habitat or any supporting habitats that maintain the integrity of this designated area are present within the site.

Table 4: IEEM Evaluation

Criteria	Remarks
Features of National Importance	<ul style="list-style-type: none"> The site is not subject to any national statutory nature conservation designations and it is not considered that any habitats or populations or assemblages of species within the site would meet the criteria for the designation of SSSIs at an appropriate geographic level¹⁰.
Features of Regional (Sussex) Value	<ul style="list-style-type: none"> The south-east corner of the site forms part of Lower Cokeham Reedbed and Ditches SNCI which is a non-statutory nature conservation designation. Two nationally scarce arable plants (broad-leaved spurge and spreading hedge parsley) are present on-site. The latter occurring in less than four sites in W. Sussex (Briggs (Ed.), 2001), considered rare in the county and subject to a UK BAP.
Features of District (Adur) Importance	<ul style="list-style-type: none"> Areas of reedbed, ditches, wet grassland and woodland/scrub habitat in the east section of the site play an important buffering role to the SNCI in terms of hydrology and increasing the extent of wetland habitat and in this regard are likely to be of at least district value.
Features of Local (Shoreham-Lancing-Sompting) Importance	<ul style="list-style-type: none"> A number of protected and UK BAP species and habitats are present or may occur at the site, as follows: <ul style="list-style-type: none"> - Plants such as spreading hedge parsley; - Reptiles, including slow-worm, common lizard and grass snake; - Birds such as house sparrow, reed bunting, linnet, skylark; - Invertebrates such as stag beetle; - Amphibians such as common toad and great crested newt; and, - Mammals such as hedgehog; water vole, brown hare, badger and bats; Based on the quality and extent of habitat present, it is considered that populations of these species would be significant at, of least, the local level. UK/Sussex BAP priority habitats present on-site include wet woodland, ponds/standing water, hedgerows, reedbed¹¹ and arable field margins. These habitats are limited in extent and/or not considered to be outstanding examples of their type. They are therefore considered to be of local importance.
Features of Value within the immediate vicinity of the site	<ul style="list-style-type: none"> The remaining habitats at the site comprising buildings, hardstanding, bare ground, ephemeral/short perennial and tall ruderal vegetation, scrub and scattered trees, non-native hedgerows, arable fields are likely to be of some value as foraging, cover and breeding sites for a range of generalist species and are therefore of value in maintaining the ecology of the area. However they are common and widespread habitats, not subject to BAPs, that do not generally support rare species or diverse assemblages of species and are therefore of value in the immediate vicinity of the site.

¹⁰ JNCC Guidelines for selection of biological SSSIs (see <http://jncc.defra.gov.uk/page-2303#download>).

¹¹ There are approximately 230ha of reedbed in Sussex (East and West) however, only 38 of these stands are over 1ha in size. Three stands of reedbed over 5ha are found in Sompting Strategic Gap in West Sussex which includes Lower Cokeham reedbed and Ditches SNCI. On-site reedbed measures approximately 0.4ha with associated ditches and marginal vegetation providing an additional 0.1 ha. Together, this represents less than 0.5% of the county's resource (Southgate, 2012).

Table 4: IEEM Evaluation

Criteria	Remarks
Features of Secondary and Supporting Value	<ul style="list-style-type: none"> • The east section of the site functions as a buffer to Lower Cokeham Reedbed and Ditches SNCI and plays an important hydrological role in maintaining water levels to wetland habitats present <i>viz.</i> reed swamp and fen. • The site is located on the urban edge of Sompting and provides wildlife corridors for species moving across the urban-rural fringe both through the Sompting Strategic Gap and north towards the South Downs National Park.
Social Value	<ul style="list-style-type: none"> • The site is privately owned, but provides aesthetic value to residents whose properties border the site by affording them views across Sompting Strategic Gap.
Economic Value	<ul style="list-style-type: none"> • The north, west and central sections of the site form part of a larger farm and comprise an arable crop. The small fields in the east section of the site are grazed (by horses). Due to the small size of on-site woodland in this area, opportunities available for income generation would be very limited. All remaining habitats (and species) do not currently provide a resource that could be exploited for their economic value.

LOCAL PLANNING POLICY

4.4 On the basis of the completed surveys it is considered that the statutory South East Plan (2009) and Adur District Local Plan (1996) contain the following nature conservation and green infrastructure policies relevant to the site. A summary of these policies is detailed in Table 5 over page. The full text of the relevant policies is contained in Appendix 4 and this should be referred to. It should be noted however that policies in the 1996 Local Plan will be superseded by policies in the emerging Local Plan once it is adopted.

Table 5: Regional and local planning policies relevant to the site.

Policy	Relevance to the site
South East Plan (2009)	
<p>CC1: Sustainable Development Conserve and enhance the natural environment and prepare for the impacts of climate change.</p>	<ul style="list-style-type: none"> • Development proposals should seek to protect and increase the biodiversity value of the site through appropriate mitigation, compensation and enhancement, and provide climate change adaptation (see policies below for further detail). • The area of highest ecological value is the east section of the site. Under the principles of sustainable development it is recommended that, where possible, development is avoided in this area. • Where development is to take place in areas adjacent to the SNCI a buffer zone should be designed in consultation with the Local Planning Authority and Sussex Wildlife Trust.
<p>CC2: Climate Change Mitigate and adapt to the effects of climate change by guiding development to locations which offer protection from flooding impacts, incorporating SuDS, increasing flood storage capacity and promoting opportunities for sustainable flood management and the migration of habitats and species.</p>	<ul style="list-style-type: none"> • Boundary features in the east section of the site provide local wildlife corridors. Where possible proposals should buffer and enhance these linear habitats to facilitate the movement of mobile species across the urban-rural fringe. Arable field margins also provide this function, but to a lesser degree. • Sustainable Drainage Systems (SuDS) should be an integral part of the scheme and designed in collaboration with ecologists to maximise their value to wildlife. • The east section of the site provides an important hydrological role to wetland features present in Lower Cokeham Reedbed and Ditches SNCI to the south. Development should avoid any changes to the hydrology of this part of the site and SuDS schemes should be carefully designed to avoid potential changes to the water quality entering the SNCI. • The installation of green roofs as part of the SuDS for the site will provide climate change adaptation through the amelioration of storm water and urban heat island effects, amongst others.

<p>CC4: Sustainable Design And Construction Proposals must adopt and incorporate sustainable construction standards and techniques including considering how a development can contribute to biodiversity gain.</p>	<ul style="list-style-type: none"> • Under NPPF (2012) and the NERC Act (2006) there is a requirement to build biodiversity into design proposals, including hard landscaped areas and the fabric of buildings. The following measures should be considered: green roofs, green walls, artificial bat and bird boxes, rain gardens, vegetated swales, attenuation ponds etc. • Details on the protection of any retained ecological features and mitigation required during the construction phase should form part of the wider Construction Environmental Management Plan (CEMP) for the site.
<p>CC6: Sustainable Communities And Character Of The Environment Proposals should be environmentally sensitive and respect and enhance the character and distinctiveness of settlements and landscapes.</p>	<ul style="list-style-type: none"> • Landscape proposals should include species typical of the local landscape and/or Natural Area and published plant species lists should be consulted.
<p>CC8: Green Infrastructure Proposals should seek to provide and contribute to networks of multi-functional green space to deliver environmental and social benefits including conserving and enhancing biodiversity, landscape, recreation and water management.</p>	<ul style="list-style-type: none"> • Any proposals should buffer and enhance the linear habitats present along boundaries, particularly those in the east section of the site. Planting should be positioned so as to enhance existing green corridors and provide connections between on-site woodland and new on-site habitats including both terrestrial and aquatic types. • Consideration should be given to designing the east section of the site to provide access to nature and informal recreation. Any scheme will need to balance the requirements of recreation with biodiversity. • Where development is to take place in areas adjacent to the SNCI a buffer zone should be designed in consultation with the Local Planning Authority and Sussex Wildlife Trust.
<p>NRM1: Sustainable Water Resources and Groundwater Quality To set out circumstances where sustainable drainage solutions should be incorporated.</p>	<ul style="list-style-type: none"> • SuDS should be an integral part of the scheme and designed in collaboration with ecologists to maximise their value to wildlife. Interventions such as green roofs, green walls, rain gardens, vegetated swales, permeable paving, and attenuation ponds etc. should be considered at the masterplanning stage. • See comments under Policy CC2 above.
<p>NRM4: Sustainable Flood Risk Management Requirement incorporation and management of Sustainable Drainage Systems (SuDS) and other water retention and flood storage measures to minimise direct surface run-off.</p>	<ul style="list-style-type: none"> • See Policy CC2 and NRM1 above.

<p>NRM5: Conservation and Improvement Of Biodiversity. Local planning authorities and other bodies shall avoid damage to nationally important SSSIs, a net loss of biodiversity, and actively pursue opportunities to achieve a net gain across the region. Access to areas of wildlife importance will be supported. GI is required to be identified, developed and implemented with new development.</p>	<ul style="list-style-type: none"> • A range of protected, rare/notable and BAP species are present, or have potential to be present on-site, including plants, reptiles, bats, badgers, great crested newts, dormice, water vole, invertebrates and breeding birds. Potential impacts to these species should be avoided through appropriate mitigation, compensation and enhancement which may include further surveys (see Section 5). • There is an opportunity to conserve and potentially increase local biodiversity through habitat creation (see Section 5).
<p>Policy C4: Landscape and Countryside Management Outside National Parks and AONBs, proposals should respect, protect and enhance the diversity and local distinctiveness of the District's landscape. Appropriate mitigation should be implemented where damage to the landscape cannot be avoided.</p>	<ul style="list-style-type: none"> • See Policy CC6 above.
<p>C5: Managing The Rural-Urban Fringe Positive management should be considered as part of any urban extension development proposal. Consideration should be given to landscape, biodiversity enhancement, woodland management, recreation provision and access routes.</p>	<ul style="list-style-type: none"> • The existing GI links across the site should be retained and integrated into development proposals through masterplanning. There is opportunity to link the site with Hamble Recreation Ground, and for the design of circular walks through the development and into Sompting Strategic Gap via Loose Lane.
<p>C6: Countryside Access And Rights Of Way Management Access to the countryside should be encouraged through maintaining, enhancing and promoting the PROW system, identify opportunities for routes within and between settlements, creating multi-functional routes for multiple users and promoting appropriate access and management measures for Natura 2000/Ramsar sites.</p>	<ul style="list-style-type: none"> • See Policy C5 above.
<p>Adur District Local Plan (1996)</p>	
<p>AB25-27: Trees and Landscaping Trees should be retained where possible and sufficient space shall be left around them to avoid threatening their survival. Tree planting should be appropriate to the scale of the development. Any landscaping should form an integral part of the proposal and be appropriate to the coastal environment of Adur District, including the planting of predominantly native trees.</p>	<ul style="list-style-type: none"> • The planting of native trees and shrubs should be central to any landscape scheme. Native and non-native plants of known wildlife value should be considered for other landscaped areas. • Any retained trees should be protected following <i>BS 5837 Trees in Relation to Design, Demolition and Construction – Recommendations</i> (2012).

Evaluation Summary

- 4.5 Overall, on the basis of the above criteria (IEEM, 2006), farmland covering approximately 75% of the site, is considered to be of ecological value at a local level. It was dominated by an arable monoculture which is typically a habitat of limited ecological value. Arable fields do however have potential to support a number of legally protected, rare/notable and BAP species. Observed examples during the PEA included skylark (UK BAP) and nationally scarce arable plants, one of which is also rare in the county and subject to a UK BAP.
- 4.6 Habitats of highest ecological value are strongly associated with the east section of the site which includes the northern extent of Lower Cokeham Reedbed and Ditches SNCI. The SNCI is a non-statutory designated nature conservation site that is of regional (county) value.
- 4.7 The east section also includes wetland habitats (wet woodland, reedbed, ditches and ephemeral wet grassland) and boundary features (hedgerows and lines of scattered trees and scrub) that are continuous with Lower Cokeham Reedbed and Ditches SNCI. They perform the following roles:
- Providing buffering habitat to the SNCI;
 - Functioning as the water source/catchment to the SNCI thereby playing an important hydrological role in maintaining water levels to off-site area of wetland, including regionally important areas of reed swamp and fen;
 - Increasing the extent and diversity of habitat available to support protected, rare/notable and BAP species, present within the SNCI.
 - Increasing the extent of BAP habitat such as wet woodland, reedbed and ponds/standing water, present within the SNCI.
- 4.8 In this regard, wetland habitat and boundary features in the east section of the site are considered to be of at least district value.
- 4.9 Five UK BAP habitats are present on-site (hedgerow, wet woodland, reedbed, ponds/standing water and arable field margins). Due to their limited extent and/or current composition/condition they are not outstanding examples of their type and are considered to be of local importance only.
- 4.10 On-site habitats have potential to support species protected under UK and European legislation, including breeding birds, bats, reptiles, badger, great crested newt, plants,

invertebrates and water vole. The legal and policy implications associated with these species are detailed in Section 5.

- 4.11 Boundary features provide potential wildlife corridors for a range of species such as bats, birds, invertebrates, badgers, grass snake and small mammals that may commute both within the site and across the urban-rural fringe into Sompting Strategic Gap and north towards the South Downs National Park.

5 Conclusions and Recommendations

CONCLUSIONS

- 5.1 The site is not subject to any statutory nature conservation designations. The nearest statutory designated nature conservation site is Lancing Ring LNR and SNCI located approximately 1.4km north-east of the site.
- 5.2 The south-east corner of the site comprises wet woodland, reedbed, ditches and marginal vegetation that form part of the northern limit of Lower Cokeham Reedbed and Ditches SNCI. This is a non-statutory designated nature conservation site, valued at a county level, and any potential impact on the SNCI as a result of development will be of material consideration in the planning process.
- 5.3 Wetland and boundary habitats within the east section of the site are subject to UK BAPs and have potential to support protected, rare/notable and UK BAP species. They also perform an important supporting role to the SNCI in terms of buffering and maintaining the local hydrological system. In this regard they are considered to be of at least district value.
- 5.4 It is strongly recommended that, where possible, development in the east section of the site, and in particular the SNCI and supporting adjacent habitats, is avoided. The SNCI and supporting adjacent habitats should be retained and protected, except where loss is unavoidable, and only after an appropriate programme of mitigation, compensation and enhancement has been put in place. Where development is to take place in areas adjacent to the SNCI a buffer zone should be designed in consultation with the Local Planning Authority and Sussex Wildlife Trust.
- 5.5 Farmland, covering approximately 75% of the site, is considered to be of ecological value within a local context only. This is due to the relatively low diversity of habitat types present and the dominance of arable fields, which are typically a habitat of limited ecological value. The arable fields and margins do however, have potential to support species protected under UK and European legislation (see below). Two nationally scarce arable plants were also present – broad-leave spurge and spreading hedge parsley, the latter being rare in the county and subject to a UK BAP.

- 5.6 On-site habitats have potential to support species protected under UK and European legislation, including breeding birds, roosting and foraging bats, widespread species of reptile, badgers, water vole, plants, invertebrates and great crested newts.
- 5.7 The site may also provide an important secondary and supporting role to the network of ecological receptors surrounding it, primarily by providing wildlife corridors for a range of species such as bats, birds, invertebrates, badgers, grass snake and small mammals. These species may commute both within the site and across the urban-rural fringe into Sompting Strategic Gap and north towards the South Downs National Park.
- 5.8 The following UK BAP habitats/species are present or have potential to be present within the site:
- Hedgerows (present);
 - Wet woodland (present);
 - Arable field margins (present);
 - Reedbed (present);
 - Ponds/standing water (present);
 - Plants such as spreading hedge parsley (present)
 - Reptiles, including slow-worm, common lizard and grass snake;
 - Birds such as house sparrow (present), skylark (present), reed bunting and linnet;
 - Amphibians such as common toad and great crested newt; and,
 - Mammals such as badgers (present), water vole (present), bats, brown hare and hedgehog.
- 5.9 BAP habitats/species are not necessarily rare but under NPPF (2012) and the Natural Environment and Rural Communities (NERC) Act 2006 are all of principal importance for the conservation of biodiversity and are of material consideration in the planning process. None of the BAP habitats or populations of BAP species currently known to be present on-site are considered as notable or exceptional examples of their type.

RECOMMENDED FURTHER SURVEYS

Overview

- 5.10 As discussed above it is strongly recommended that development of the east section of the site is avoided, in particular the SNCI and adjacent habitats that provide a supporting role to the SNCI. Where development is to take place in areas adjacent to

the SNCI a buffer zone should be designed in consultation with the LPA and Sussex Wildlife Trust.

- 5.11 The surveys recommended below assume the loss or degradation of suitable habitat. There is potential to avoid and/or limit impacts through habitat retention and protection (see below). The final approach to surveys will have to be based on consideration of detailed proposals for the redevelopment of the site, though in all cases published best practice should be followed with regard to survey methodology etc.
- 5.12 To provide a sufficient baseline of data and mitigate against any potential impact on declining, BAP and protected species/habitats at the site, further survey for breeding birds, widespread species of reptile, roosting and foraging bats, badger, arable plants, invertebrates, water vole and great crested newts is recommended.

Breeding Birds

- 5.13 The site contains a variety of on-site habitats considered suitable for breeding bird species, such as woodland, hedgerows, scattered trees, dense scrub, reedbed and arable fields. The PEA and data search confirms 48 species as using the site including 12 BoCC Red List and UK BAP species and 14 BoCC Amber List species. A breeding bird survey is therefore recommended to determine the species and numbers of breeding birds at the site and to ensure that any potential future works have minimal impact on less-common species and to inform mitigation and future management plans at the site. The spring survey should comprise a minimum of four visits spaced out during the peak breeding season March to August.

Reptiles

- 5.14 The site provides the habitat mosaic and vegetation structure suitable for a number of widespread reptile species, including grass snakes. Suitable habitats are restricted to arable field boundaries and the east section of the site, which provide open areas suitable for foraging and basking, cover against predation as well as potential hibernation spots.
- 5.15 A minimum of a seven survey visits, following current guidelines (Froglife, 1999; English Nature, 2004), should be carried out to establish the presence/absence and distribution of reptiles. The grassland/scrub mosaic and edge habitats should be targeted]. The optimum time is generally late spring, from April to mid June and in the

early autumn during September. Where possible, survey effort should be spread across the recording season i.e. March-October.

Bats

- 5.16 The habitats within the east section of the site are of value to foraging, commuting and roosting bats when judged against current assessment criteria provided by the Bat Conservation Trust (Hundt, 2012). Habitats of highest value are concentrated along internal and external boundary features (most notably the line of mature hybrid black poplars) and wetland/woodland habitat in the east section of the site.
- 5.17 Following current guidelines (Hundt, 2012) further bat surveys are recommended to assess the presence or potential presence of any bat roosts, as well as the function the site might provide for foraging and commuting. This should include building inspections (Building 2), tree inspections (hybrid black poplars) and emergence and activity surveys as appropriate. Emergence and activity surveys must be carried out during the peak season which is between May and August.

Badger

- 5.18 A badger sett and footprints were found on east and west extremities of arable farmland during the PEA and the landscape on-site and across Sompting Strategic Gap provides suitable areas for sett building and extensive areas for foraging.
- 5.19 In order to assess the use of the site by badger a survey should be carried out in all areas of suitable on-site sett-building and foraging habitat to look for signs and evidence of this species. Survey effort should also include suitable off-site and accessible areas of the site boundary. In line with current methodology holes attributed to badger should be classified as well used, partially used or disused and setts should be classified as main, annexe, subsidiary and outlier (Cresswell *et al*, 1990; Wilson *et al*, 1997). Surveys to identify setts should be carried out in the winter while surveys to establish the level of foraging and the likely impact of loss of foraging habitat and mitigation required should be conducted in the summer.

Great Crested Newt

- 5.20 The east section of the site provides breeding and terrestrial habitat in the form of ephemerally wet grassland, ditches, reedbed, wet woodland, and tree and scrub boundaries. Three ponds that potentially provide suitable breeding habitat for great crested newt are present within a 500m radius, which is the guideline distance

(English Nature, 2001) that great crested newt may commute between breeding ponds. It is recommended that a Habitat Suitability Index (HSI) survey, following Oldham et al (2000), is carried out on all ponds (and other suitable wetland habitats) within a 500m radius of site boundaries that do not have significant barriers to dispersal between them and Sompting Fringe.

- 5.21 Using the results from the HSI, presence/absence surveys of ponds within 500m of the site may need to be carried out. Four presence/absence surveys should be carried out following best practice guidelines (English Nature, 2001) and must be carried out between mid-March and mid-June with at least two between mid-April and mid-May
- 5.22 The requirement for further survey will depend on the quality of the ponds as breeding habitat and the number and distance of suitable breeding ponds from the site. They are likely to be required to determine population size (if presence is confirmed), and the degree to which great crested newt are a constraint to any proposed development in terms of planning construction works and whether works will require a EPSM licence.

Arable plants

- 5.23 Arable weeds were present around field edges, between crop rows and in areas of failed crop. Two nationally scarce plants were located along field edges near to Loose Lane i.e. broad-leaved spurge and spreading hedge parsley. Spreading hedge parsley occurs in less than four locations in West Sussex, is categorised as rare in the county and is also subject to a UK BAP.
- 5.24 It is recommended that a survey is carried out to determine the species, population and location of arable weeds to ensure that any potential future works have minimal impact on rare/notable species and to inform any necessary mitigation and future management plans at the site. It is also recommended that any population of spreading hedge parsley is monitored annually by vascular plant county recorders (Paul Harnes and Mike Shaw). This includes the in-situ (2012) population and any ex-situ population that arises from future mitigation.

Invertebrates

- 5.25 The east section of the site comprises a range of terrestrial and aquatic habitats that provide a variety of foraging and nesting opportunities for both widespread and rare/notable insect species. Resources include abundant fallen deadwood in the wet

woodland, standing deadwood on hybrid black poplars, grassland/tall ruderal/scrub mosaics, nectar rich plants and open ground/mixed substrates (for xeric species). Areas of open water are also present in the form of wet flushes, ditches and swamp.

- 5.26 It is recommended that both terrestrial and aquatic invertebrate surveys are carried out, using a variety of sampling techniques in order to provide baseline information for key habitats such as reedbed, ditches and wet woodland.
- 5.27 Surveys for terrestrial invertebrates should broadly follow the protocols and guidance as outlined in *Surveying Terrestrial and Freshwater Invertebrates for Conservation Evaluation* (Drake *et al*, 2007) with respect to survey methods and the species groups to be included, with multiple visits required to ensure an adequate seasonal coverage.
- 5.28 Aquatic invertebrate surveys should focus on macro-invertebrate diversity using sampling methods devised to make a general assessment regarding the quality of ditches, such as outlined in *A Manual for the Survey and Evaluation of the Aquatic Plant and Invertebrate Assemblages of Grazing Marsh Ditch Systems* (Buglife, 2011).

Water vole

- 5.29 Habitats in the south-east corner of the site including reedbed and ditches, provide suitable habitat for water vole. This habitat is connected to a more extensive off-site wetland system to the south. Water voles have been recorded (2002) in the northern part of Lower Cokeham Reedbed and Ditches SNCI, part of which is on-site.
- 5.30 Surveys of ditches and adjacent areas of reedbed are recommended and should include a search of all suitable off-site habitat, located approximately 50m to the south of the site. This would involve an ecologist walking the banks searching for signs of water voles such as footprints, burrows, latrines, feeding stations or other field signs. The surveys would ideally be undertaken from Mid March-September and follow best practice guidelines (Strachan and Moorhouse, 2011)

MITIGATION

Water Courses

- 5.31 All works near to wetland habitats in the east section of the site should adhere to best practice guidance to avoid adverse effects upon water quality, such as *Pollution Prevention Guidance 5: Works and maintenance in or near water* (Environment Agency, 2007). Any development proposals should also ensure that they are buffered

by planting (without increasing shading) to provide adjacent habitat and reduce risk of runoff from hard surfaces.

Habitat retention and protection

- 5.32 Retention of habitat in the east section of the site has already been recommended on the basis of their supporting role to the SNCI and maintaining hydrology. It is also important to maintain the three lines of scattered trees and scrub orientated north to south between Hamble Recreation Ground and the SNCI as they provide important green corridors. In accordance with *Policy CC8: Green Infrastructure* and *Policy C5: Managing the Urban-Rural Fringe* of The South East Plan (2009) a key part of masterplanning will be to ensure that these links are retained and protected as part of development proposals.
- 5.33 All construction works taking place in the vicinity of retained woodland, lines of scattered trees/scrub, mature trees and hedgerows should conform to *British Standard 5837:2012 Trees in Relation to Design, Demolition and Construction* to maintain the integrity of these habitats.

Vegetation clearance and breeding birds

- 5.34 The site contains a variety of habitats considered suitable for breeding birds and a breeding bird survey is recommended. Any clearance of vegetation suitable for breeding birds, such as woodland, scattered trees, scrub, hedgerows etc. should be implemented outside of the bird nesting season i.e. between September and February. In addition, it is recommended that compensation is provided for any breeding bird habitat lost as an integral part of any landscaping plan for the site.

Invasive plant species

- 5.35 Giant hogweed was observed in two locations in arable fields. This is an invasive plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), under which it is an offence to plant or otherwise cause these species to grow in the wild. It is possible that it could spread during development and, therefore, it is recommended that it be removed and correctly disposed of, following best practice guidelines (Environment Agency, 2010; Netregs, 2012).

Bats and lighting

5.36 While different species of bat react differently to night time lighting, research has found that bats are sensitive to artificial lighting. Excessive lighting can delay bats from emerging, thus shortening the time available for foraging, as well as causing bats to move away from suitable foraging grounds or roost sites, to alternative dark areas (Jones, 2000).

5.37 Currently the whole site remains dark at night. In order to retain as many dark areas as possible, light spillage and glare associated with any development should be minimised. This can be achieved by following accepted best practice (Institute of Ecology and Environmental Management, 2006: Institute of Lighting Engineers, 2007):

- The level of artificial lighting including flood lighting should be kept to a minimum;
- Where this does not conflict with health and safety and or security requirements, the site should be kept dark during peak bat activity periods (0 to 1.5 hours after sunset and 1.5 hours before sunrise;
- Lighting that is required for security or safety reasons should use a lamp of no greater than 2000 lumes (150 Watts) and should comprise sensor activated lamps;
- Low pressure sodium lights are a preferred option to high pressure sodium or mercury lamps;
- Lighting should be directed to where it is needed with minimal light spillage. This can be achieved by limiting the height of the lighting columns and by using as steep a downward angle as possible and/or a shield or hood that directs the light below the horizontal plane; and
- Artificial lighting should not directly illuminate any potential bat roosting features or habitats of value to commuting/foraging bats. Similarly, any newly planted linear features should not be directly lit.

COMPENSATION AND ENHANCEMENT

Management plan

5.38 A site wide landscape and ecological management plan should be drawn up to cover the long-term maintenance of retained and newly created on-site habitats. This should form part of the contractual agreement for the future management of the site, which may also include Lower Cokeham Reedbed and Ditches SNCI

Sustainable Drainage Systems (SuDS)

- 5.39 Where proposed development comprises large areas of buildings and hardstanding the use of SuDS schemes, including green roofs (see below) are recommended.
- 5.40 A linked system comprising green roofs, rain water harvesting, ponds, vegetated swales, below ground drainage and porous surfacing utilising materials such as grasscrete¹² should be considered as part of the masterplanning for the site. Such systems will increase biodiversity and reduce surface water run-off at the site. The creation of ponds (see below) and/or swales would also contribute to the UK Standing Water/Ponds BAP and provide a habitat for a range of wetland wildlife. Once established such features would provide a habitat for a range of wetland wildlife and could be used as an educational resource, for example, by local schools.
- 5.41 The design of any SuDS system must take full account of any potential impacts on Lower Cokeham Reedbed and Ditches SNCI such as the potential for a reduction in volume or pollution of surface and ground water reaching the wetland habitats present to the south of the site.

Green roofs

- 5.42 Any proposals for green roofs should include a specification of proven ecological value for foraging birds and invertebrates as pioneered by the Green Roof Consultancy¹³. Such roofs are typified by substrates of varying type and depth, include dead wood habitat and open areas of vegetation, require low levels of maintenance, and are attractive to people as well as wildlife. They also provide opportunities for natural colonisation by plants and invertebrates. Such roofs are preferable to standard stonecrop *Sedum spp.* dominated roofs that deliver little in the way of biodiversity value as they are typically less species-rich and have a shallower substrate depth¹⁴.

¹² Grasscrete comprises a range of cellular grassed pavement systems made from concrete or plastic and back-filled with recycled materials from the construction process and/or top-soil. The surface can be left to colonise naturally or can be planted with grass and low growing herbs.

¹³ Green Roof Consultancy website <http://greenroofconsultancy.com>

¹⁴ Please note that the UK's *Green Roof Code of Best Practice* (GRO, 2011) advocates a minimum depth of 80mm for extensive green roofs.

Ponds

5.43 Subject to the findings of further surveys and/or hydrological investigations, the creation of new ponds could improve conditions for amphibians potentially breeding in the locality and strengthen links between any breeding populations associated with nearby ponds. Ponds would also provide an important resource for invertebrates, reptiles such as grass snake and foraging bats. Information on locating, designing, constructing and managing ponds should follow the advice provided by the Pond Creation Toolkit on the Pond Conservation website¹⁵.

Hedgerows

5.44 Native hedgerows provide an important habitat for a wide range of species and contribute to green infrastructure. It is therefore recommended that native hedgerows be planted as linear features around the site and are used to link other ecological features, such as retained hedgerows, woodland, lines of scattered trees/scrub.

5.45 Trimming of hedgerows should be carried out on a 2-3 year rotation to give a variety of heights and side growth and to ensure plenty of flowers, berries and fruit. To achieve this, sections of hedge could be cut in different years or opposite sides cut in alternate years.

5.46 Trimming should ideally be carried out in the late winter (although not in severe frost), to avoid the bird nesting season and ensure that the autumn berry crop remains available for as long as possible. Wherever feasible a 0.5 to 2m wide strip of grassland and/or tall-herb should be allowed to develop along either side of the hedge and be managed by cutting 1-2 times per year or preferably biennially.

5.47 Tree regeneration should also be encouraged to provide young hedgerow trees that will fulfil an ecological and landscape role in the future.

¹⁵ Pond Conservation website <http://www.pondconservation.org.uk/millionponds/pondcreationtoolkit>

Landscape Planting

5.48 The use of native and non-native planting in landscape schemes is recommended to both compensate for any loss of habitat and to provide enhancements for wildlife. Where possible the following guidelines should be followed:

- Replacement planting to compensate for the loss of any woodland, tree, scrub and hedgerow habitat should use only native species;
- Native tree and shrub species should be typical of the local landscape and/or Natural Area and published plant species lists should be consulted;
- It is best practice to use British native stock for tree, shrub and hedgerow planting and woodland schemes should follow guidance given in Forestry Commission Practice Note 8a (Herbert, Samuel & Patterson, 1999). A list of reputable suppliers is available from the Flora Locale website¹⁶.
- The use of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) as part of landscape planting, for example cotoneaster species and rhododendron, should be avoided;
- Non-Schedule 9 plant species that are potentially invasive or aggressive should also be avoided in areas adjacent to semi-natural habitats e.g. the planting of cherry laurel, shallon and snowberry in areas adjacent to native woodland;
- Planting should be positioned so as to enhance existing green corridors, especially those identified on the Ecological Constraints and Opportunities Map.
- New tree planting should not shade mature trees that have been retained and where this is a risk, adequate space should be provided or only smaller shrub species planted;
- Any non-native planting schemes should comprise a high percentage of species of known wildlife value; and
- Double flowering forms of both native and non-native species, such as '*Flore Pleno*', should be avoided.

¹⁶ Flora Locale website <http://www.floralocale.org>

Birds

5.49 Recommendations to both compensate for the loss of trees and shrubs of potential value to birds and to enhance sites for this species group include the use of artificial bird boxes. Boxes should include a combination of models suitable for colonial, semi-colonial and territorial species. Where possible the following guidelines should be followed:

- With exception to orientating the box due south, the direction that it faces makes little difference provided that it is sheltered from prevailing wind, rain and strong sunlight. The sector from north through east to south-east is possibly the most favourable.
- Boxes should not be positioned on the wet side of a tree trunk where the rain water flows down heavily. It is usually possible to see where the rain water runs down the trunk from the growth of green algae.
- Small boxes should be angled forwards to give additional shelter to the entrance. Larger open boxes should be mounted tilted slightly upwards so that the nest rests naturally in the rearmost part of the box.
- For many common songbird species the height of the box is not important and may range from 1m upwards.
- It is preferable to site nest boxes in locations that are accessible for maintenance, away from bird feeders, a discrete distance away from other nest boxes (unless targeting a colonial species) and so that they provide some protection from predators and vandalism.
- Standard hole and open fronted boxes can be attached at varying heights using either standard hanging devices or bespoke attachments to suitable structures.

5.50 In addition, any on-site buildings could include specially designed features within their structure, for example to attract house sparrows (a UK BAP species), swift and house martin. House sparrow boxes are usually erected on buildings in locations such as under eaves. Swift boxes are located in similar open locations on building facades, but require an uninterrupted drop of at least 3-5m below them.

Bats

5.51 Consideration could be given to the installation of bat boxes in suitable locations in mature trees and also to include integrated bat 'boxes' or 'bricks' in any new buildings. These will provide warm and favourable conditions for crevice roosting species such as pipistrelles (soprano pipistrelle is a UK BAP species). Ideally they

should be south or south-west facing with a clear flight entry path and away from artificial lighting (see *Bats and lighting* above). Information from any further bat surveys, regarding bat flight-lines to commuting and foraging habitat should be used to inform the positioning of these new roosts.

- 5.52 Building designs should consider using hanging tiles or weather boarding made from natural timber since these will provide suitable crevices for bats. Soffits or fascia boards should be made from natural timber in preference to PVC, and where possible, traditional bitumen and hessian roofing felt should be used in preference to breathable membranes such as Tyvec™. Any timbers including soffits should be treated with substances that are non-toxic to bats such as those that comprise a copper, zinc or boron compound in emulsion or aqueous solution. A list of approved treatments can be obtained from Natural England.
- 5.53 Any new building with a pitched or hipped roof could also include a dedicated open loft space with bat access points located at the gable ends and along the soffits. Ideally suitable bat access slots (20 x 100 slots) should be located along the ridge at approximately three metre intervals at the gable ends and along the soffits.
- 5.54 Where possible, any roof voids created for bats should ideally have restricted access to avoid future disturbances and to ensure an unobstructed flight space by limiting the use of the loft to only low level storage. This can be achieved by restricting the loft hatch size (i.e. 500 x 500mm).

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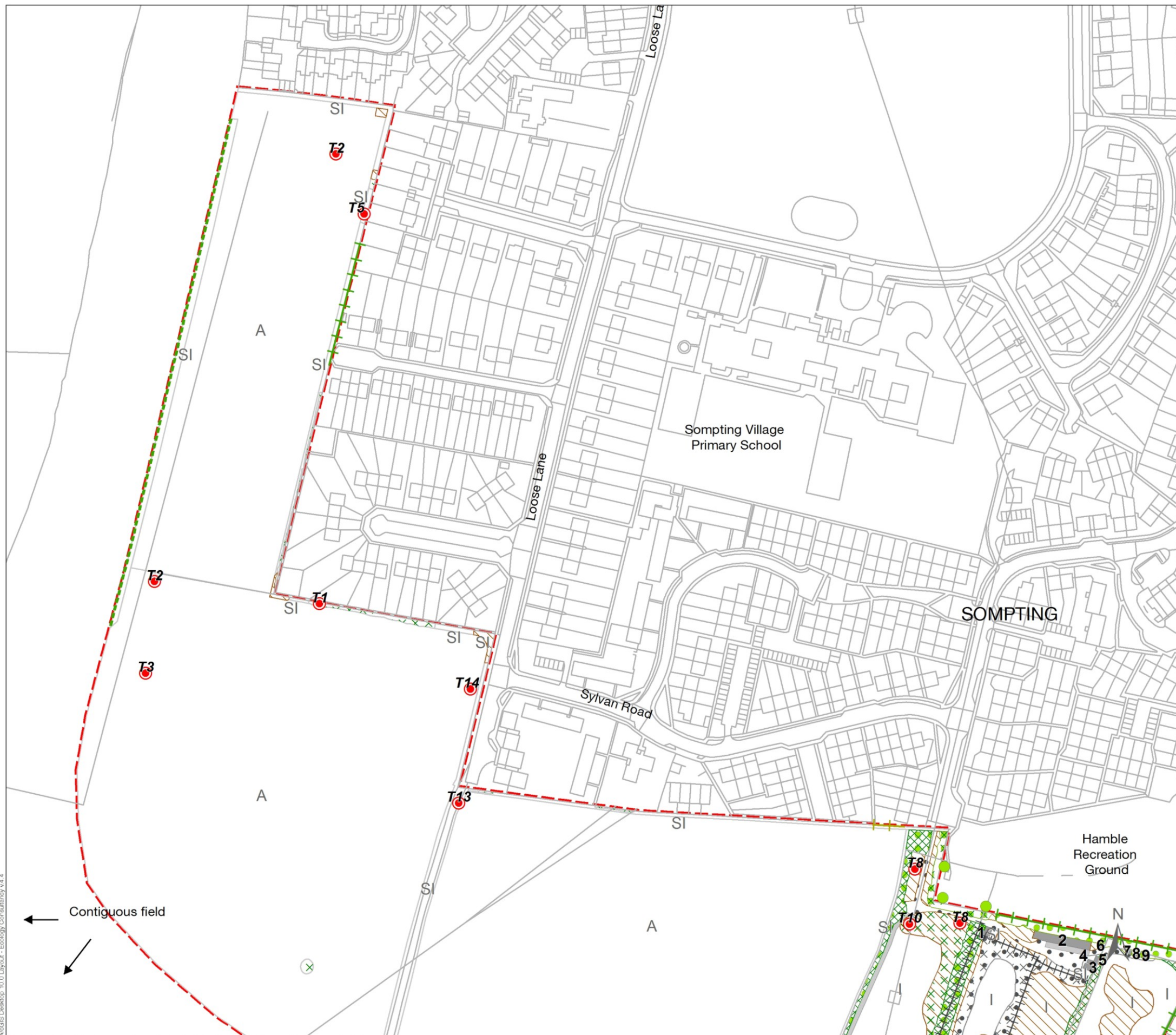
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Appendix 1: Habitat Map



ArcGIS Desktop 10.0 Layout - Ecology Consultancy v4.4

This plan is provided solely for the purpose of supporting the description of the ecological features of the site as contained in the accompanying report

Job title			
Adur District Council ECL Job no. 120618			
Client			
Sheils Flynn			
Drawing title			
HABITAT SURVEY MAP			
Site (Sectors)			
Sampling Fringe (1 of 2)			
Date of survey	July 2012	Surveyor	BK
		Scale (at A3)	1:2,000
Drawn/Checked/Approved		Date	
CAJ/GS/CC/BK		28/08/2012	

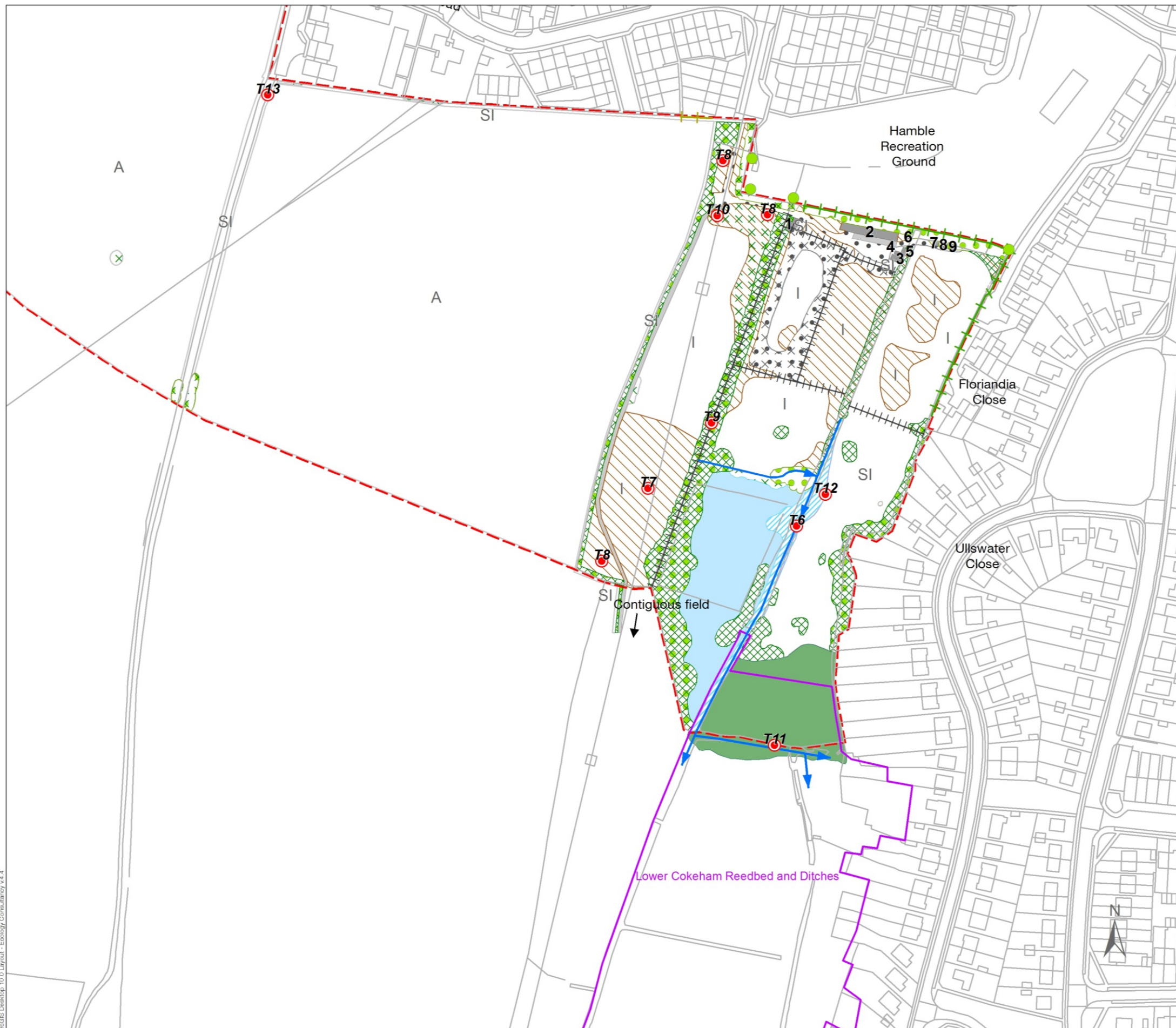


KEY	
[Red dashed line]	Site boundary
[Black outline]	Buildings
[Grey fill]	Hardstanding
[Green fill]	Broad-leaved semi-natural woodland
[Green with diagonal lines]	Plantation woodland (native)
[Green with dots]	Mixed woodland
[Orange with diagonal lines]	Tall ruderal vegetation
[Green with cross-hatch]	Continuous scrub
[Green with 'x' in a box]	Scattered scrub
[Green with dots in a box]	Scattered trees
[Yellow with 'A' in a box]	Amenity grassland
[White with 'SI' in a box]	Poor semi-improved grassland
[White with 'A' in a box]	Arable
[White with 'I' in a box]	Improved grassland
[Brown with cross-hatch]	Introduced shrubbery
[White with 'x' in a box]	Short perennial/ephemeral
[White with dots in a box]	Bare ground
[Blue diagonal lines]	Marginal vegetation
[Light blue fill]	Swamp
[Blue fill]	Standing water-Pond
[Green with 'V' in a box]	Vegetable plot
[Red with 'S' in a box]	Spoil
[Pink fill]	Roughland
[Blue outline]	SSSI boundary
[Purple outline]	SNCI boundary
[White with 'NA' in a box]	Private Garden (not accessed)
[Green with dots and line]	Native species-poor hedge and trees
[Yellow with dots and line]	Non-native species-poor hedge
[Green with line]	Native species-poor hedge
[Blue arrow]	Running water
[Brown line]	Stone wall
[Black line]	Fence
[Green dot]	Tree (indicative)
[Red circle]	Target note

Job title	Adur District Council ECL Job no. 120618		
Client	Sheils Flynn		
Drawing title	HABITAT SURVEY MAP		
Site (Sectors)	Somping Fringe (2 of 2)		
Date of survey	July 2012	Surveyor BK	Scale (at A3) 1:2,000
Drawn/Checked/Approved	CAJ/GS/CC/BK	Date	28/08/2012



KEY	
[Red dashed line]	Site boundary
[Black outline]	Buildings
[Grey rectangle]	Hardstanding
[Green cross-hatch]	Broad-leaved semi-natural woodland
[Green diagonal lines]	Plantation woodland (native)
[Light green diagonal lines]	Mixed woodland
[Orange diagonal lines]	Tall ruderal vegetation
[Green cross-hatch]	Continuous scrub
[Green cross-hatch]	Scattered scrub
[Green circle]	Scattered trees
[Yellow rectangle]	Amenity grassland
[SI]	Poor semi-improved grassland
[A]	Arable
[I]	Improved grassland
[Orange cross-hatch]	Introduced shrubbery
[X]	Short perennial/ephemeral
[Black dots]	Bare ground
[Blue diagonal lines]	Marginal vegetation
[Light blue rectangle]	Swamp
[Blue rectangle]	Standing water-Pond
[Green rectangle]	Vegetable plot
[Red S]	Spoil
[Pink rectangle]	Roughland
[Blue outline]	SSSI boundary
[Purple outline]	SNCI boundary
[NA]	Private Garden (not accessed)
[Green line with dots]	Native species-poor hedge and trees
[Yellow line with dots]	Non-native species-poor hedge
[Green line with dots]	Native species-poor hedge
[Blue arrow]	Running water
[Brown line]	Stone wall
[Black line]	Fence
[Green circle]	Tree (indicative)
[Red circle]	Target note



ArcGIS Desktop 10.0 Layout - Ecology Consultancy v4.4

This plan is provided solely for the purpose of supporting the description of the ecological features of the site as contained in the accompanying report

Appendix 2: Photographs

Photograph 1

View north across arable fields with narrow field margin to left of picture. Area of failed crop with arable weeds in foreground.



Photograph 2

Badger and fox print in crop row of arable field.



Photograph 3

One of two locations of giant hogweed growing in arable field. An invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).



Photograph 4

One of four plants of spreading hedge parsley growing in edge of arable field. A nationally and county rare plant also listed as a UK BAP priority species.



Photograph 5

View south-west across south-east corner of the site. Poached wet grassland grades into marginal vegetation, ditch and pockets of dense scrub along the edge of the reedbed.



Photograph 6

View north-west from edge of wet woodland with marginal vegetation and reedbed grading into dense scrub. Line of mature hybrid black poplar in the background.



Appendix 3: Plant Species List

**Plant Species List for Sompting Fringe, West Sussex compiled from the Preliminary
Ecological Appraisal carried out on 31st July 2012.**

Scientific nomenclature follows Stace (2010) for vascular plant species. Vascular plant common names follow the Botanical Society of the British Isles 2003 list, published on its web site, www.bsbi.org.uk. Please note that this plant species list was generated as part of a PEA, does not constitute a full botanical survey and should be read in conjunction with the associated PEA report.

Abundance was estimated using the DAFOR scale as follows:

D = dominant, A = abundant, F = frequent, O = occasional, R = rare, L = locally
c=clumped, e=edge only, g=garden origin, p=planted, y = young, s=seedling or sucker,
t=tree, h=hedge, w=water, d=dry, a=arable ?=identification uncertain.

Scientific Name	Common Name	Abundance	Qualifier
<i>Acer campestre</i>	Field maple	O/LA	e, h, t
<i>Acer pseudoplatanus</i>	Sycamore	O/LA	t
<i>Achillea millefolium</i>	Yarrow	O	
<i>Agrostis capillaris</i>	Common bent	O	
<i>Agrostis stolonifera</i>	Creeping bent	A	
<i>Allium vineale</i>	Wild onion	R	e
<i>Alopecurus myosuroides</i>	Black-grass	R	a
<i>Anagallis arvensis</i>	Scarlet pimpernel	O/LF	e, a
<i>Anisantha sterilis</i>	Barren brome	R	
<i>Anthriscus sylvestris</i>	Cow parsley	O/LF	e
<i>Apium nodiflorum</i>	Fool's water-cress	O/LF	w
<i>Arctium minus</i>	Lesser burdock	R/LF	
<i>Arrhenatherum elatius</i>	False oat-grass	A	e
<i>Artemisia vulgaris</i>	Mugwort	LF	
<i>Avena fatua</i>	Wild-oat	O/LA	e, a
<i>Ballota nigra</i>	Black horehound	R	
<i>Bellis perennis</i>	Daisy	F	
<i>Bromus hordeaceus</i>	Soft-brome	O/LA	
<i>Bryonia dioica</i>	White bryony	R	e, h
<i>Buddleja davidii</i>	Buddleia	O/LA	e, g
<i>Calystegia silvatica</i>	Large bindweed	O/LA	e, h
<i>Capsella bursa-pastoris</i>	Shepherd's-purse	R	
<i>Cardamine flexuosa</i>	Wavy bitter-cress	R/LF	w
<i>Centaurea scabiosa</i>	Greater knapweed	R/LF	e
<i>Cerastium fontanum</i>	Common mouse-ear	O	

<i>Chenopodium album</i>	Fat-hen	O/LA	e, a
<i>Chenopodium ficifolium</i>	Fig-leaved goosefoot	O	a
<i>Cirsium arvense</i>	Creeping thistle	F/LA	
<i>Cirsium palustre</i>	Marsh thistle	R	w
<i>Clematis vitalba</i>	Traveller's-joy	R	
<i>Convolvulus arvensis</i>	Field bindweed	R	
<i>Coronopus didymus</i>	Lesser swine-cress	O	
<i>Corylus avellana</i>	Hazel	R/LA	e, h
<i>Crepis capillaris</i>	Smooth hawk's-beard	R	
<i>Crocosmia x crocosmiiflora</i>	Montbretia	R	
<i>Cymbalaria muralis</i>	Ivy-leaved toadflax	R	
<i>Dactylis glomerata</i>	Cock's-foot	A	
<i>Duchesnea indica</i>	Yellow-flowered strawberry	R/LF	w
<i>Elytrigia repens</i>	Common couch	O	
<i>Epilobium hirsutum</i>	Great willowherb	O/LF	w, e
<i>Epilobium parviflorum</i>	Hoary willowherb	O	
<i>Epilobium tetragonum</i>	Square-stalked willowherb	R	e, w
<i>Equisetum arvense</i>	Field horsetail	R/LA	e, a
<i>Escallonia macrantha</i>	Escallonia	R	e, p
<i>Euonymus latifolius</i>	Large-leaved spindle	R	h
<i>Eupatorium cannabinum</i>	Hemp-agrimony	R	
<i>Euphorbia peplus</i>	Petty spurge	R/LF	e
<i>Euphorbia platyphyllos</i>	Broad-leaved spurge	R	e, a
<i>Fallopia baldschuanica</i>	Russian-vine	R	e
<i>Filipendula ulmaria</i>	Meadowsweet	R/LF	w, c
<i>Foeniculum vulgare</i>	Fennel	R	
<i>Fuchsia magellanica</i>	Fuchsia	R	p, e
<i>Fumaria officinalis</i>	Common fumitory	R	
<i>Galium aparine</i>	Cleavers	O	
<i>Galium verum</i>	Lady's bedstraw	R	e
<i>Geranium dissectum</i>	Cut-leaved crane's-bill	R	
<i>Geranium molle</i>	Dove's-foot crane's-bill	O	
<i>Geranium robertianum</i>	Herb-Robert	R	
<i>Geranium sp.</i>	Crane's-bill	R	g, e
<i>Glyceria notata</i>	Plicate sweet-grass	R/LF	w
<i>Hedera helix</i>	Ivy	D	
<i>Hordeum murinum</i>	Wall barley	R/LF	
<i>Hordeum vulgare</i>	Six-rowed barley	O	a
<i>Hypericum calycinium</i>	Rose-of-Sharon	R	
<i>Hypericum tetrapterum</i>	Square-stalked St John's-wort	R/LF	w
<i>Hypochaeris radicata</i>	Cat's-ear	R	

<i>Iris pseudacorus</i>	Yellow iris	R	w
<i>Juncus articulatus</i>	Jointed rush	O	w
<i>Juncus bufonius</i>	Toad rush	R	w
<i>Juncus inflexus</i>	Hard rush	O	w, e
<i>Lactuca serriola</i>	Prickly lettuce	R	e
<i>Lamium album</i>	White dead-nettle	R	
<i>Lamium purpureum</i>	Red dead-nettle	R	
<i>Lapsana communis</i>	Nipplewort	R	
<i>Lathyrus pratensis</i>	Meadow vetchling	R	
<i>Lemna minor</i>	Common duckweed	R/LD	w
<i>Ligustrum ovalifolium</i>	Garden privet	R	e, f
<i>Linaria purpurea</i>	Purple toadflax	R/LF	
<i>Lolium perenne</i>	Perennial rye-grass	O/LA	
<i>Lotus corniculatus</i>	Common bird's-foot-trefoil	R	
<i>Lycopersicon esculentum</i>	Tomato	R	e, p
<i>Lythrum salicaria</i>	Purple-loosestrife	R	c, w
<i>Malva sylvestris</i>	Common mallow	O/LA	
<i>Matricaria discoidea</i>	Pineappleweed	R	e
<i>Mentha spicata</i>	Spear mint	R	p?
<i>Myosotis scorpioides</i>	Water forget-me-not	R/LA	w
<i>Nasturtium officinale</i>	Water-cress	O/LA	w, e
<i>Odontites vernus</i>	Red bartsia	R	
<i>Oenanthe fistulosa</i>	Tubular water-dropwort	R/LF	w
<i>Oenothera sp.</i>	Evening-primrose	R	
<i>Origanum vulgare</i>	Wild marjoram	R	
<i>Papaver rhoeas</i>	Common poppy	O/LF	
<i>Papaver somniferum</i>	Opium poppy	R	
<i>Pentaglottis sempervirens</i>	Green alkanet	R	
<i>Persicaria maculosa</i>	Redshank	O	w
<i>Phragmites australis</i>	Common reed	A/LD	w
<i>Phleum pratense</i>	Timothy	O/LF	e
<i>Phyllitis scolopendrium</i>	Hart's-tongue fern	R	w
<i>Helminthotheca echioides</i>	Hawkweed ox-tongue	O	
<i>Plantago lanceolata</i>	Ribwort plantain	O	
<i>Plantago major</i>	Greater plantain	F	
<i>Poa annua</i>	Annual meadow-grass	F	
<i>Poa nemoralis</i>	Wood poa	R	
<i>Poa trivialis</i>	Rough meadow-grass	O	
<i>Polygonum aviculare</i>	Knotgrass	O/LF	a
<i>Populus x canadensis</i>	Hybrid black-poplar	R/LF	e, p, t
<i>Potentilla anserina</i>	Silverweed	O	w

<i>Potentilla reptans</i>	Creeping cinquefoil	R	
<i>Prunella vulgaris</i>	Selfheal	O/LF	
<i>Prunus spinosa</i>	Blackthorn	O/LF	e, h
<i>Pulicaria dysenterica</i>	Common fleabane	O	w
<i>Pyrus salicifolia</i>	Willow-leaved pear	R	e, p
<i>Ranunculus acris</i>	Meadow buttercup	R	
<i>Ranunculus bulbosus</i>	Bulbous buttercup	O	
<i>Ranunculus repens</i>	Creeping buttercup	F	
<i>Raphanus raphanistrum</i>	Wild radish	O/LA	e, a
<i>Reseda luteola</i>	Weld	R	
<i>Rhus typhina</i>	Stag's-horn sumach	R/LF	s, e, g
<i>Rosa canina</i>	Dog-rose	R	e, h
<i>Rosa rugosa</i>	Japanese rose	R	e
<i>Rosa sp.</i>	Rose	R	g, p, e
<i>Rubus fruticosus agg.</i>	Bramble	A/LD	e, h
<i>Rumex crispus</i>	Curled dock	O	
<i>Rumex obtusifolius</i>	Broad-leaved dock	F/LA	
<i>Sagina procumbens</i>	Procumbent pearlwort	o	
<i>Salix caprea</i>	Goat willow	R	h
<i>Salix cinerea</i>	Grey willow	R	e
<i>Salix fragilis</i>	Crack willow	LD	w
<i>Sambucus nigra</i>	Elder	A	e, h
<i>Senecio jacobaea</i>	Common ragwort	F/LA	
<i>Senecio vulgaris</i>	Groundsel	O	
<i>Sison amomum</i>	Stone parsley	R	
<i>Sisymbrium officinale</i>	Hedge mustard	R	
<i>Solanum dulcamara</i>	Bittersweet	R	w
<i>Sonchus asper</i>	Prickly sow-thistle	O	
<i>Sonchus oleraceus</i>	Smooth sow-thistle	O	
<i>Spergularia rubra</i>	Sand spurrey	R	
<i>Stachys palustris</i>	Marsh woundwort	R	
<i>Stellaria media</i>	Common chickweed	F	
<i>Symphoricarpos albus</i>	Snowberry	R	g, p?
<i>Syringa vulgaris</i>	Lilac	R	p, e
<i>Tamarix gallica</i>	Tamarisk	R	e, p
<i>Tamus communis</i>	Black bryony	R	e
<i>Torilis arvensis</i>	Spreading hedge-parsley	R	e, a
<i>Trifolium dubium</i>	Lesser trefoil	R	
<i>Trifolium micranthum</i>	Slender trefoil	R	
<i>Trifolium pratense</i>	Red clover	O	
<i>Trifolium repens</i>	White clover	F	

<i>Tripleurospermum</i>	Scentless mayweed	F/LA	e, a
<i>Triticum aestivum</i>	Bread wheat	D	p, a
<i>Ulex europaeus</i>	Gorse	R	
<i>Urtica dioica</i>	Common nettle	F/LA	e
<i>Verbena officinalis</i>	Vervain	R	
<i>Veronica arvensis</i>	Wall speedwell	R	
<i>Veronica beccabunga</i>	Brooklime	O/LF	w
<i>Veronica persica</i>	Common field-speedwell	O	
<i>Veronica serpyllifolia</i>	Thyme-leaved speedwell	O	
<i>Vicia sativa ssp. segetalis</i>	Common vetch	R/LF	e, a
<i>Vinca major</i>	Greater periwinkle	R	e
<i>Weigela florida</i>	Weigelia	R	p, e
<i>X cupressocyparis leylandii</i>	Leyland cypress	R	e, h, p

Appendix 4: Legislation and Policy

Important Notice: This section contains details of legislation and planning policy applicable in Britain only (i.e. not including the Isle of Man, Northern Ireland, the Republic of Ireland or the Channel Islands) and is provided for general guidance only. While every effort has been made to ensure accuracy, this section should not be relied upon as a definitive statement of the law.

A NATIONAL LEGISLATION AFFORDED TO SPECIES

The objective of the EC Habitats Directive¹⁷ is to conserve the various species of plant and animal which are considered rare across Europe. The Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2010 (as amended) (formerly The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) and The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended).

The Wildlife and Countryside Act 1981 (as amended) is a key piece of national legislation which implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and implements the species protection obligations of Council Directive 2009/147/EC (formerly 79/409/EEC) on the Conservation of Wild Birds (EC Birds Directive) in Great Britain.

Since the passing of the Wildlife & Countryside Act 1981, various amendments have been made, details of which can be found on www.opsi.gov.uk. Key amendments have been made through the Countryside and Rights of Way (CRoW) Act (2000) and Nature Conservation (Scotland) Act 2004.

Other legislative Acts affording protection to wildlife and their habitats include:

- Deer Act 1991
- Countryside and Rights of Way (CRoW) Act 2000
- Natural Environment & Rural Communities (NERC) Act 2006
- Protection of Badgers Act 1992
- Wild Mammals (Protection) Act 1996

Species and species groups that are protected or otherwise regulated under the aforementioned domestic and European legislation, and that are most likely to be affected by development activities, include herpetofauna (amphibians and reptiles), badger, bats, birds, dormouse, invasive plant species, otter, plants, red squirrel, water vole and white clawed crayfish.

Explanatory notes relating to species protected under The Conservation of Habitats and Species Regulations 2010 (as amended) (which includes smooth snake, sand lizard, great crested newt and natterjack toad), all bat species, otter, dormouse and some plant species) are given below. **These should be read in conjunction with the relevant species sections that follow.**

- In the Directive, the term 'deliberate' is interpreted as being somewhat wider than intentional and may be thought of as including an element of recklessness.

¹⁷ Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora

- The Conservation of Habitats and Species Regulations 2010 (as amended) does not define the act of ‘migration’ and therefore, as a precaution, it is recommended that short distance movement of animals for e.g. foraging, breeding or dispersal purposes are also considered.
- In order to obtain a European Protected Species Mitigation (EPSM) licence, the application must demonstrate that it meets all of the following three ‘tests’: i) the action(s) are necessary for the purpose of preserving public health or safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequence of primary importance for the environment; ii) that there is no satisfactory alternative and iii) that the action authorised will not be detrimental to the maintenance of the species concerned at a favourable conservation status in their natural range.

Herpetofauna (Amphibians and Reptiles)

The sand lizard *Lacerta agilis*, smooth snake *Coronella austriaca*, natterjack toad *Epidalea calamita* and great crested newt *Triturus cristatus* receive full protection under The Conservation of Habitats and Species Regulations 2010 (as amended) through their inclusion on Schedule 2. The pool frog *Pelophylax lessonae* is also afforded full protection under the same legislation. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of species listed on Schedule 2
- Deliberate disturbance of any Schedule 2 species as:
 - a) to impair their ability:
 - (i) to survive, breed, or reproduce, or to rear or nurture young;
 - (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate
 - b) to affect significantly the local distribution or abundance of the species
- Deliberate taking or destroying of the eggs of a Schedule 2 species
- Damage or destruction of a breeding site or resting place
- Keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

With the exception of the pool frog, these species are also currently listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

Other native species of herpetofauna are protected solely under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). Species such as the adder *Vipera berus*, grass snake *Natrix natrix*, common lizard *Zootoca vivipara* and slow-worm *Anguis fragilis* are listed in respect to Section 9(1) & (5). For these species, it is prohibited to:

- Intentionally (or recklessly in Scotland) kill or injure these species
- Sell, offer or expose for sale, possess or transport for purpose of sale these species, or any part thereof.

Common frog *Rana temporaria*, common toad *Bufo bufo*, smooth newt *Lissotriton vulgaris* and palmate newt *L. helveticus* are listed in respect to Section 9(5) only which affords them

protection against sale, offering or exposing for sale, possession or transport for the purpose of sale.

How is the legislation pertaining to herpetofauna liable to affect development works?

A European Protected Species (EPS) Licence issued by the relevant countryside agency (e.g. Natural England) will be required for works liable to affect the breeding sites or resting places of those amphibian and reptile species protected under The Conservation Habitats and Species Regulations 2010. A licence will also be required for operations liable to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licences are to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Although not licensable, appropriate mitigation measures may also be required to prevent the intentional killing or injury of adder, grass snake, common lizard and slow worm, thus avoiding contravention of the Wildlife and Countryside Act 1981 (as amended).

Badger

Badgers *Meles meles* receive protection under The Protection of Badgers Act 1992 which consolidates the previous Badger Acts of 1973 and 1991. The Act makes it an offence to:

- Wilfully kill, injure, take, or attempt to kill, injure or take a badger
- Cruelly ill-treat a badger, including use of tongs and digging
- Possess or control a dead badger or any part thereof
- Intentionally or recklessly damage, destroy or obstruct access to a badger sett¹⁸ or any part thereof
- Intentionally or recklessly disturb¹⁹ a badger when it is occupying a badger sett
- Intentionally or recklessly cause a dog to enter a badger sett
- Sell or offers for sale, possesses or has under his control, a live badger

How is the legislation pertaining to badgers liable to affect development works?

A Development Licence²⁰ will be required from the relevant countryside agency (e.g. Natural England) for any development works liable to affect an active badger sett, or to disturb

¹⁸ A badger sett is defined in the legislation as "any structure or place which displays signs indicating current use by a badger". This includes seasonally used setts. Natural England (2009) have issued guidance on what is likely to constitute current use of a badger sett: www.naturalengland.org.uk/Images/WMLG17_tcm6-11815.pdf

¹⁹ For guidance on what constitutes disturbance and other licensing queries, see Natural England (2007) Badgers & Development: A Guide to Best Practice and Licensing. www.naturalengland.org.uk/Images/badgers-dev-guidance_tcm6-4057.pdf, Natural England (2009) Interpretation of 'Disturbance' in relation to badgers occupying a sett www.naturalengland.org.uk/Images/WMLG16_tcm6-11814.pdf, Scottish Natural Heritage (2002) Badgers & Development. www.snh.org.uk/publications/online/wildlife/badgersanddevelopment/default.asp and Countryside Council for Wales (undated) Badgers: A Guide for Developers. www.ccw.gov.uk.

²⁰ Natural England will only consider issuing a licence where detailed planning permission (if applicable to operation) has already been granted

badgers whilst in the sett. Depending on the nature of the works and the specifics of the sett and its environs, badgers could be disturbed by work near the sett even if there is no direct interference or damage to the sett itself. The countryside agencies have issued guidelines on what constitutes a licensable activity. N.B. there is no provision in law for the capture of badgers for development purposes and therefore it is not possible to obtain a licence to translocate badgers from one area to another.

Bats

All species of bat are fully protected under The Conservation of Habitats and Species Regulations 2010 (as amended) through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. all bats)
- Deliberate disturbance of bat species as:
 - a) to impair their ability:
 - (i) to survive, breed, or reproduce, or to rear or nurture young;
 - (ii) to hibernate or migrate³
 - b) to affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place
- Keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

Bats are also currently protected under the Wildlife and Countryside Act 1981 (as amended) through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

How is the legislation pertaining to bats liable to affect development works?

A European Protected Species (EPS) Licence issued by the relevant countryside agency (e.g. Natural England) will be required for works liable to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Though there is no case law to date, the legislation may also be interpreted such that, in certain circumstances, important foraging areas and/or commuting routes can be regarded as being afforded *de facto* protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity and long-term viability of a bat roost²¹.

²¹ Garland & Markham (2008) Is important bat foraging and commuting habitat legally protected? Mammal News, No. 150. The Mammal Society, Southampton.

Birds

With certain exceptions, all birds, their nests and eggs are protected under Sections 1-8 of the Wildlife and Countryside Act 1981 (as amended). Among other things, this makes it an offence to:

- Intentionally (or recklessly in Scotland) kill, injure or take any wild bird
- Intentionally (or recklessly in Scotland) take, damage or destroy (or, in Scotland, otherwise interfere with) the nest of any wild bird while it is in use or being built
- Intentionally take or destroy an egg of any wild bird
- Sell, offer or expose for sale, have in his possession or transport for the purpose of sale any wild bird (dead or alive) or bird egg or part thereof.
- In Scotland only, intentionally or recklessly obstruct or prevent any wild bird from using its nest

Certain species of bird, for example the barn owl, black redstart, hobby, bittern and kingfisher receive additional special protection under Schedule 1 of the Act and Annex 1 of the European Community Directive on the Conservation of Wild Birds (2009/147/EC). This affords them protection against:

- Intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young
- Intentional or reckless disturbance of dependent young of such a bird
- In Scotland only, intentional or reckless disturbance whilst lekking
- In Scotland only, intentional or reckless harassment

How is the legislation pertaining to birds liable to affect development works?

To avoid contravention of the Wildlife and Countryside Act 1981 (as amended), works should be planned to avoid the possibility of killing or injuring any wild bird, or damaging or destroying their nests. The most effective way to reduce the likelihood of nest destruction in particular is to undertake work outside the main bird nesting season which typically runs from March to August²². Where this is not feasible, it will be necessary to have any areas of suitable habitat thoroughly checked for nests prior to vegetation clearance.

Those species of bird listed on Schedule 1 are additionally protected against disturbance during the nesting season. Thus, it will be necessary to ensure that no potentially disturbing works are undertaken in the vicinity of the nest. The most effective way to avoid disturbance is to postpone works until the young have fledged. If this is not feasible, it may be possible to maintain an appropriate buffer zone or standoff around the nest.

²² It should be noted that this is the main breeding period. Breeding activity may occur outside this period (depending on the particular species and geographical location of the site) and thus due care and attention should be given when undertaking potentially disturbing works at any time of year.

How is the legislation pertaining to dormice liable to affect development works?

A European Protected Species (EPS) Licence issued by the relevant countryside agency (e.g. Natural England) will be required for works liable to affect dormouse breeding or resting places (N.B. this is usually taken to mean dormouse 'habitat') or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Wild Mammals (Protection) Act 1996

All wild mammals are protected against intentional acts of cruelty under the above legislation. This makes it an offence to:

- Mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

To avoid possible contravention, due care and attention should be taken when carrying out works (for example operations near burrows or nests) with the potential to affect any wild mammal in this way, regardless of whether they are legally protected through other conservation legislation or not.

Plants

With certain exceptions, all wild plants are protected under the Wildlife and Countryside Act 1981 (as amended). This makes it an offence for an 'unauthorised' person to intentionally (or recklessly in Scotland) uproot wild plants. An authorised person can be the owner of the land on which the action is taken, or anybody authorised by them.

Certain rare species of plant, for example some species of orchid, are also fully protected under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). This prohibits *any* person:

- Intentionally (or recklessly in Scotland) picking, uprooting or destruction of any wild Schedule 8 species (or seed or spore attached to any such wild plant in Scotland only)
- Selling, offering or exposing for sale, or possessing or transporting for the purpose of sale, any wild live or dead Schedule 8 plant species or part thereof
- In addition to the UK legislation outlined above, several plant species are fully protected under Schedule 5 of The Conservation of Habitats and Species Regulations 2010. These are species of European importance. Regulation 45 makes it an offence to:
- Deliberately pick, collect, cut, uproot or destroy a wild Schedule 5 species
- Be in possession of, or control, transport, sell or exchange, or offer for sale or exchange any wild live or dead Schedule 5 species or anything derived from such a plant.

How is the legislation pertaining to protected plants liable to affect development works?

A European Protected Species (EPS) Licence issued by the relevant countryside agency (e.g. Natural England) will be required for works liable to affect species of plant listed under The Conservation of Habitat and Species Regulations 2010. The licence is to allow

derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Invasive Plant Species

Certain species of plant, including Japanese knotweed *Fallopia japonica*, giant hogweed *Heracleum mantegazzianum* and Himalayan balsam *Impatiens glandulifera* are listed on Part II of Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) in respect to Section 14(2). Such species are generally non-natives whose establishment or spread in the wild may be detrimental to native wildlife. Inclusion on Part II of Schedule 9 therefore makes it an offence to plant or otherwise cause these species to grow in the wild.

How is the legislation pertaining to invasive plants liable to affect development works?

Although it is not an offence to have these plants on your land *per se*, it is an offence to *cause* these species to grow in the wild. Therefore, if they are present on site and development activities (for example movement of spoil, disposal of cut waste or vehicular movements) have the potential to cause the further spread of these species to new areas, it will be necessary to ensure appropriate measures are in place to prevent this happening prior to the commencement of works.

Plants: Injurious Weeds

Under the Weeds Act 1959 any land owner or occupier may be required prevent the spread of certain 'injurious weeds' such as spear thistle *Cirsium vulgare*, creeping thistle *Cirsium arvense*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, and common ragwort *Senecio jacobaea*. It is a criminal offence to fail to comply with a notice requiring such action to be taken. The Ragwort Control Act 2003 establishes a ragwort control code of practice as common ragwort is poisonous to horses and other livestock. This code provides best practice guidelines and is not legally binding.

B NATIONAL AND EUROPEAN LEGISLATION AFFORDED TO HABITATS

Statutory Designations: National

Nationally important areas of special scientific interest, by reason of their flora, fauna, or geological or physiographical features, are notified by the countryside agencies as statutory **Sites of Special Scientific Interest** (SSSIs) under the National Parks and Access to the Countryside Act 1949 and latterly the Wildlife & Countryside Act 1981 (as amended). As well as underpinning other national designations (such as **National Nature Reserves** which are declared by the countryside agencies under the same legislation), the system also provides statutory protection for terrestrial and coastal sites which are important within a European context (Natura 2000 network) and globally (such as Wetlands of International Importance). See subsequent sections for details of these designations. Improved provisions for the protection and management of SSSIs have been introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and the Nature Conservation (Scotland) Act 2004.

The Wildlife & Countryside Act 1981 (as amended) also provides for the making of **Limestone Pavement Orders**, which prohibit the disturbance and removal of limestone from such designated areas, and the designation of **Marine Nature Reserves**, for which byelaws must be made to protect them.

Statutory Designations: International

Special Protection Areas (SPAs), together with **Special Areas of Conservation** (SACs) form the **Natura 2000** network. The Government is obliged to identify and classify SPAs under the EC Birds Directive (Council Directive 2009/147/EC (formerly 79/409/EEC)) on the Conservation of Wild Birds). SPAs are areas of the most important habitat for rare (listed on Annex I of the Directive) and migratory birds within the European Union. Protection afforded SPAs in terrestrial areas and territorial marine waters out to 12 nautical miles (nm) is given by The Conservation of Habitats & Species Regulations 2010. The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended) provide a mechanism for the designation and protection of SPAs in UK offshore waters (from 12-200 nm).

The Government is obliged to identify and designate SACs under the EC Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora). These are areas which have been identified as best representing the range and variety of habitats and (non-bird) species listed on Annexes I and II to the Directive within the European Union. SACs in terrestrial areas and territorial marine waters out to 12 nautical miles are protected under The Conservation of Habitats & Species Regulations 2010. The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended) provide a mechanism for the designation and protection of SACs in UK offshore waters (from 12-200 nm).

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention covers all aspects of wetland conservation and wise use, in particular recognizing wetlands as ecosystems that are globally important for biodiversity conservation. Wetlands can include areas of marsh, fen, peatland or water and may be natural or artificial, permanent or temporary. Wetlands may also incorporate riparian and coastal zones adjacent to the wetlands. Ramsar sites are underpinned through prior notification as Sites of Special Scientific Interest (SSSIs) and as such receive statutory protection under the Wildlife & Countryside Act 1981 (as amended) with further protection provided by the Countryside and Rights of Way (CROW) Act 2000. Policy statements have been issued by the Government in England and Wales highlighting the special status of Ramsar sites. This effectively extends the level of protection to that afforded to sites which have been designated under the EC Birds and Habitats Directives as part of the Natura 2000 network (e.g. SACs & SPAs).

Statutory Designations: Local

Under the National Parks and Access to the Countryside Act 1949 **Local Nature Reserves** (LNRs) may be declared by local authorities after consultation with the relevant countryside agency. LNRs are declared for sites holding special wildlife or geological interest at a local level and are managed for nature conservation, and provide opportunities for research and education and enjoyment of nature.

Non-Statutory Designations

Areas considered to be of local conservation interest may be designated by local authorities as a **Wildlife Site**, under a variety of names such as **County Wildlife Sites** (CWS), **Listed Wildlife Sites** (LWS), **Local Nature Conservation Sites** (LNCS), **Sites of Biological Importance** (SBIs), **Sites of Importance for Nature Conservation** (SINCs), or **Sites of Nature Conservation Importance** (SNCIs). The criteria for designation may vary between counties.

Together with the statutory designations, these are defined in local and structure plans under the Town and Country Planning system and are a material consideration when planning applications are being determined. The level of protection afforded to these sites through local planning policies and development frameworks may vary between counties.

Regionally Important Geological and Geomorphological Sites (RIGS) are the most important places for geology and geomorphology outside land holding statutory designations such as SSSIs. Locally-developed criteria are used to select these sites, according to their value for education, scientific study, historical significance or aesthetic qualities. As with local Wildlife Sites, RIGS are a material consideration when planning applications are being determined.

The Hedgerow Regulations 1997

The Hedgerow Regulations 1997 are intended to protect ‘important’ countryside hedgerows from destruction or damage. A hedgerow is considered important if (a) has existed for 30 years or more; and (b) satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations.

Under the Regulations, it is against the law to remove or destroy certain hedgerows without permission from the local planning authority. Hedgerows on or adjacent to common land, village greens, SSSIs (including all terrestrial SACs, NNRs and SPAs), LNRs, land used for agriculture or forestry and land used for the keeping or breeding of horses, ponies or donkeys are covered by these regulations. Hedgerows *‘within or marking the boundary of the curtilage of a dwelling-house’* are not.

C NATIONAL PLANNING POLICY

National Planning Policy Framework 2012

The National Planning Policy Framework replaces PPS9 (from April 2012) and emphasises the need for sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and priority species. An emphasis is also made for the need for ecological networks via preservation, restoration and re-creation. The protection and recovery of priority species – presumably those listed as UK Biodiversity Action Plan priority species – is also listed as a requirement of planning policy. In determining planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from adverse harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and The Biodiversity Duty

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 40 of the Act requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the ‘biodiversity duty’. Section 41 of the Act (Section 42 in Wales) requires the Secretary of State to publish a list of habitats and species which are of ‘principal importance for the conservation of biodiversity.’ This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

D REGIONAL AND LOCAL PLANNING POLICY

The South East Plan (also known as the Regional Spatial Strategy for the South East) sets out the overall vision for the South East Region up to 2026 (Communities and Local Government, 2009). It outlines challenges facing the region, such as housing, economy, transport and environmental protection. More specifically it provides direction for Local Development Frameworks (LDFs) and includes the following Core Regional Policies that are relevant to the site.

Policy NRM5: Conservation and Improvement of Biodiversity

“Local planning authorities and other bodies shall avoid a net loss of biodiversity, and actively pursue opportunities to achieve a net gain across the region.

- (i) They shall ensure appropriate access to areas of wildlife importance, identifying areas of opportunity for biodiversity improvement and setting targets reflecting those in the table headed 'Regional Biodiversity Targets - Summary for 2010 and 2026' below. Opportunities for biodiversity improvement, including connection of sites, large-scale habitat restoration, enhancement and re-creation in the areas of strategic opportunity for biodiversity improvement (Diagram NRM3) should be pursued*
- (ii) They shall influence and applying agri-environment schemes, forestry, flood defence, restoration of mineral extraction sites and other land management practices to:*
 - deliver biodiversity targets
 - increase the wildlife value of land
 - reduce diffuse pollution
 - protect soil resources.
- (iii) They shall promote policies that integrate the need to accommodate the changes taking place in agriculture with the potential implications of resultant development in the countryside.*
- (iv) They shall require green infrastructure to be identified, developed and implemented in conjunction with new development”.*

Policy C4: Landscape and Countryside management

“Outside nationally designated landscapes, positive and high quality management of the region’s open countryside will be encouraged and supported by local authorities and other organisations, agencies, land managers, the private sector and local communities, through a combination of planning policies, grant aid and other measures.

In particular, planning authorities and other agencies in their plans and programmes should recognise, and aim to protect and enhance, the diversity and local distinctiveness of the region’s landscape, informed by landscape character assessment.

Positive land management is particularly needed around the edge of London and in other areas subject to most growth and change. In such areas long-term goals for landscape conservation and renewal and habitat improvement should be set, and full advantage taken of agri-environmental funding and other management tools.

Local authorities should develop criteria-based policies to ensure that all development respects and enhances local landscape character, securing appropriate mitigation where damage to local landscape character cannot be avoided.”

Policy CC1: Sustainable Development

“The principal objective of the Plan is to achieve and to maintain sustainable development in the region. Sustainable development priorities for the South East are identified as:

- (i) achieving sustainable levels of resource use*
- (ii) ensuring the physical and natural environment of the South East is conserved and enhanced*
- (iii) reducing greenhouse gas emissions associated with the region*

- (iv) ensuring that the South East is prepared for the inevitable impacts of climate change
- (v) achieving safe, secure and socially inclusive communities across the region, and ensuring that the most deprived people also have an equal opportunity to benefit from and contribute to a better quality of life.

Policy CC4: Sustainable Design and Construction

“The design and construction of all new development, and the redevelopment and refurbishment of existing building stock will be expected to adopt and incorporate sustainable construction standards and techniques. This will include: consideration of how all aspects of development form can contribute to securing high standards of sustainable development including aspects such as energy, water efficiency and biodiversity gain” ,,,,,

Policy CC6: Sustainable Communities and Character of the Environment

“Actions and decisions associated with the development and use of land will actively promote the creation of sustainable and distinctive communities. This will be achieved by developing and implementing a local shared vision which:

- (i) respects, and where appropriate enhances, the character and distinctiveness of settlements and landscapes throughout the region.*
- (ii) uses innovative design processes to create a high quality built environment which promotes a sense of place. This will include consideration of accessibility, social inclusion, the need for environmentally sensitive development and crime reduction”*

The Adur District Local Plan (1996) was adopted in 1996, but is to be replaced by suite of documents as part of the Local Development Framework, which will eventually replace the Local Plan. Nature conservation policies An1-An5 in Chapter 6 of the Local Plan have not been saved. The following policies relating to trees and landscaping have been saved:

Policy AB25

Planning permission for development which would adversely affect existing trees will only be granted where:-

- (a) the trees are in poor health;
- (b) the trees are of poor appearance and of little public amenity value.

Sufficient space shall be left around trees to be retained to avoid threatening their survival. Applications for development (including outline applications) shall include where appropriate an accurate site survey showing the precise location and canopy spread of all existing trees.

Policy AB26

Planning permission for new development which could appropriately accommodate tree planting will normally only be granted where such provision is made on a significant scale as an integral part of the overall design of the development. Conditions will be imposed accordingly and consideration will be given to making Tree Preservation Orders for the future protection of the trees to be planted. Proposals incorporating insufficient tree planting relative to the scale of development proposed (or not providing adequate space for the growth of the trees) will be refused unless there are exceptional reasons.

Policy AB27

Planning permission for new development which could appropriately accommodate landscaping will only be granted subject to a scheme forming an integral part of the proposal and the scheme being appropriate to the coastal environment of Adur District, including the planting of predominantly native trees.

E BIODIVERSITY ACTION PLANS (BAPs)

The **UK BAP** was published in 1994 to comply with obligations under the Convention on Biological Diversity (The Biodiversity Treaty, 1992). It describes the UK's biological resources and commits to developing detailed plans to conserve these resources. The UK BAP comprises Habitat Action Plans (HAPs) and Species Action Plans (SAPs). In addition, local authorities promote habitat and species conservation at a regional level through development of Local BAPs (LBAPs).

UK Priority BAP species and habitats, that are potentially relevant to the site include:

- Birds such as house sparrow, dunnock, linnet, starling, skylark, lapwing, reed bunting and song thrush;
- Reptiles such as slow worm, common lizard and grass snake;
- Amphibians such as great crested newt and common toad;
- Small mammals such as hedgehog, water vole, dormouse and brown hare;
- Invertebrates such as grizzled skipper and stag beetle;
- Bats such as soprano pipistrelle, noctule and brown long eared bat;
- Plants such as spreading hedge parsley, true fox sedge and divided sedge; and,
- Habitats such as hedgerow, lowland meadows, lowland mixed deciduous woodland, wet woodland, arable field margins, reed beds, ponds/standing water, coastal and floodplain grazing marsh and rivers/streams.

The most up to date targets and actions, including latest progress reports, for UK HAPs and SAPs can be viewed on the DEFRA website²³.

In addition to the UK BAP, BAPs are also produced at the regional/county level. **The Sussex BAP** is managed by the Sussex Biodiversity Partnership. The aims and objectives of the Sussex BAP (2010) are to reflect UK targets for habitats and species of conservation concern and translate them at a local level and to integrate the needs of species and habitats within landscape-scale delivery. Currently, no county specific targets have been set, but the old Sussex BAP has been archived and can be viewed on the Sussex Biodiversity Partnership website²⁴.

The distribution of BAP habitats present across the South-East has been used to identify Biodiversity Opportunity Areas (The South East Biodiversity Forum, 2009). BOAs represent a targeted landscape-scale approach to biodiversity conservation in the county and form the basis for an ecological network and opportunity for restoration and creation of BAP habitats. Where possible, BAP targets should be linked to BOAs, increasing effectiveness of work and making reporting easier. There are 75 BOAs across Sussex and 6 within Adur District.

²³ DEFRA website

<http://ukbars.defra.gov.uk/plans/national.asp?S=&L=1&O=&SAP=&HAP=&submitted=1&flipLang=&txtLogout>

²⁴ Sussex Biodiversity Partnership <http://www.biodiversitysussex.org/>



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