Tudeley Village, Kent

Preliminary Ecological Appraisal

Produced for The Hadlow Estate

By Applied Ecology Ltd

June 2021

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APPLIED ECOLOGY LTD

St John's Innovation Centre
Cowley Road
Cambridge
CB4 0WS

Tel: 01223 422 116
Email: info@appliedecology.co.uk

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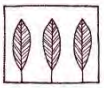

1 Introduction

Background

1.1 Applied Ecology Ltd (AEL) was appointed by the Hadlow Estate in October 2019 to undertake a Preliminary Ecological Appraisal (PEA) of an area of land (referred to hereafter as 'the Site'), covering around 195 ha of mixed farmland to the east of Tonbridge (central Ordnance Survey grid reference TQ 6289 4559). The location of the Site is shown by **Figure 1.1**.

1.2 The following report summarises the key findings of a Phase 1 habitat mapping survey and protected species walkover of the Site, which was undertaken by AEL ecologists Rob Hutchinson MCIEEM and Dr Duncan Painter CEnv MCIEEM on 9 and 10 October 2019 to help future development planning and, in particular, to inform:

- a Charette and public consultation to help plan the masterplan design of a new development within the Site referred to as Tudeley Village;
- the range and scope of follow-up Phase 2 ecological survey to inform a future planning application for the new development.

1.3 This report builds on a recent review of existing biological information for the Site and local area provided by the Kent and Medway Biological Record Centre i.e. a biological records search undertaken by other ecologists[1], and provided here in **Appendix A** for reference purposes.

1.4 The key findings of the desk based ecological assessment can be summarised as follows:

- No land within the Site is designated by any statutory or non-statutory wildlife site designation, and the Site is not located close to any Site of Special Scientific Interest (SSSI) or other statutory designated wildlife site;
- The closest designated wildlife site is called Tudeley Woods Local Wildlife Site (LWS) which occurs at nearest distances of 135m to the west, and 225m to the south of the Site boundary - but is separated from the Site by arable land and the B2017 road;
- The Site supports four areas of ancient woodland;
- Land within the Site has a record of the legally protected amphibian great crested newt, and is likely to be used by a range of bat species for foraging and roosting, and may also support habitat utilised by dormouse and badger – protected species with known records from the local area around the Site.

1.5 This report and the ecology survey work undertaken to date has been produced to inform the development of the masterplan for Tudeley Village. At this stage in the planning process, it is not considered reasonable or necessary to complete follow-up detailed protected faunal species survey as sufficient information is available to understand the likely protected species issues associated with the Tudeley Village development, and to

[1] Ecological Planning & Research Ltd (2019) *Tudeley Village Proposal -Ecological Appraisal*. Draft Report, 1844-1A, 27 February 2019.

confirm that it will be feasible to mitigate and compensate potential harmful effects on species through detailed development design, and the use of industry standard mitigation procedures implemented under the auspices of appropriate Natural England licences as necessary in the future.

1.6 In summary, this work has demonstrated that there are no known ecological designations or any other ecological grounds with potential to prevent the proposed allocation site coming forward for development.

1.7 Although it is not possible nor appropriate to complete a detailed ecological assessment at this preliminary stage, further survey work will be undertaken to support the preparation of planning applications for this development at an appropriate stage.

Tudeley Village
Kent

Site location

Site boundary

Figure 1.1

Map Scale @ A3: 1:30,000

Surveyed by: n/a	
Survey date: n/a	
Drawn by: RJH	
Checked by: DP	
Status: Draft	

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AEL1707_001-00_sitelocation_20191018 A3 18/10/2019

2 Survey Approach and Findings

Survey Approach

Habitats & Plants

2.1 A Phase 1 habitat survey of the Site was undertaken by Rob Hutchinson MCIEEM (AEL Principal Ecologist and holder of Natural England survey licences for dormice, great crested newts and bats, and Level 5 FISC botanist) on 9 and 10 October 2019.

2.2 The survey methodology adopted followed the JNCC approach to Phase 1 habitat survey (JNCC, 1993[2]) by which all habitats present within the Site (with the exception of private residential dwellings and associated land) were classified and mapped according to standard categories. While the survey was completed within the recognised survey window for conducting Phase 1 habitat survey in England, and the survey timing enabled reliable identification of the habitats present, follow-up, botanical recording, should be undertaken in advance of a planning application to ensure that plant species less visible in the autumn survey period are recorded as part of the overall botanical assessment of the Site.

2.3 During the survey, individual hedgerows within the Site were walked and the woody shrub and tree species present in each hedge noted to enable individual hedgerows to be classified as either species-rich (defined here as containing five or more native woody species along its length) or species-poor (four or fewer native woody species).

2.4 The habitat map produced in the field was subsequently digitised using a Geographical Information System (ArcGIS).

Fauna

2.5 A high-level protected animal species walkover survey of the Site was undertaken by Dr Duncan Painter (AEL Principal Ecologist and holder of Natural England survey licences for great crested newt, bats, dormice, native crayfish, smooth snake and sand lizard) in conjunction with the habitat survey on the 9 and 10 October 2019. The survey was based on walking a route between all ponds as shown to occur within the Site on the Ordnance Survey 1:10,000 base map, and the recording of incidental animal field signs on land close to and in between the ponds.

2.6 In addition to the investigation of ponds, a search of mammal opened hazel nut shells in three wooded areas within the Site was completed to try and confirm the presence of dormouse. An internal visual inspection, using a high powered cree torch, of two derelict agricultural buildings (a partly collapsed timber building and closely located set of block work pigsties) was also completed to search for evidence of bats. External survey using the torch and binoculars of a derelict brick and clay tiled oast house building at Bank Farm was also completed as part of the bat roost inspection.

[2] JNCC (1993) *Handbook for Phase 1 Habitat Survey – A technique for Environmental Audit*. JNCC, Peterborough.

2.7 The survey was not an assessment of all land areas but was sufficiently wide ranging to enable a professional judgement assessment of the potential use of the Site by faunal species to be completed alongside a review of the biological records search study reported previously. Incidental sightings of fauna and faunal field signs were also recorded by Rob Hutchinson as part of the Phase 1 habitat survey.

Findings

Habitats and Plants

2.8 The Phase 1 habitat map is shown by **Figure 2.1**, and very brief descriptions of the key habitats are provided below.

Arable Land and Grassland

2.9 The Site was dominated by intensive arable land[3] with a number of improved grassland horse paddocks around Bank Farm in the centre of the Site on the south side of the rail-line. Other grassland present within the Site included small areas of infrequently managed species poor semi-improved grassland, and regularly mown amenity grassland associated mainly with existing dwellings within the Site.

2.10 The arable land was intensively managed and of negligible nature conservation value and of apparent limited value for arable weeds with high individual nature conservation and biodiversity value – as assessed by a visual inspection of remnant unploughed field margins. Only a limited range of commonplace and widespread arable weed species were evident during the survey including common couch *Elytrigia repens*, cleavers *Galium aparine* and groundsel *Senecio vulgaris*. Of particular note, however, was a single plant of the Nationally near threatened plant field woundwort *Stachys arvensis* within an arable margin at TQ 6242 4523 to the south-west of Bank Farm. As highlighted previously, a follow-up survey in the spring and summer months is required to verify the value of the Site for arable weeds and other higher plants that may have been less visible in the autumn.

2.11 Commercially grown blackcurrant plants were present in the northern half of the Site and were mapped as arable land, albeit distinguished from other more conventional crops on the habitat map. A range of common arable weeds were present on cultivated strips between the planted rows of fruit bushes, including fat-hen *Chenopodium album*, annual meadow-grass *Poa annua*, common field-speedwell *Veronica persica*, chickweed *Stellaria media* and scented mayweed *Matricaria recutita*.

2.12 The improved grassland fields around Bank Farm were tightly horse grazed and of low botanical diversity and nature conservation interest. They consisted of a mix of typical pasture grasses characterised by red fescue *Festuca rubra*, common bent *Agrostis capillaris*, creeping bent *A. stolonifera*, crested dog's-tail *Cynosurus cristatus* and perennial rye-grass *Lolium perenne*.

2.13 None of the grassland habitats within the Site appeared to be of high individual nature conservation or biodiversity interest.

[3] Mainly recently ploughed bare earth field during the current survey

Woodland, Scrub, Hedgerows and Trees

Woodland & Scrub

2.14 A number of semi-natural broadleaved woodland blocks were present within the Site, including four stands included on the Ancient Woodland Inventory (i.e. woodlands of elevated ecological importance due to their long continuity of woodland cover). The location of ancient woodland within the Site is shown on **Figure 2.1** for reference purposes. These woodlands were typically characterised by a canopy of mature ash *Fraxinus excelsior* and oak *Quercus robur*, with a mixed understorey including hazel coppice *Corylus avellana*, hawthorn *Crataegus monogyna* and field maple *Acer campestre*. They supported a range of characteristic woodland ground layer species, including dog's-mercury *Mercurialis perennis*, bluebell *Hyacinthoides non-scripta*, wood speedwell *Veronica montana* and wood melick *Melica uniflora*. All of the woodland within the Site appeared to be heavily deer browsed and lacked extensive vegetative understoreys.

2.15 The Site was divided into a southern and northern land area by the west to east orientated London-Ashford rail-line, which supported a narrow but significant corridor of woodland, scrub and trees along its length.

Hedgerows

2.16 The network of hedgerows and trees was relatively intact with a total of 89 hedges recorded within the Site supporting a total of 31 woody shrub and tree species. Around half of the hedgerows were considered to be species-rich. The most common hedgerow species overall was hawthorn (present in 54% of hedgerows), followed by blackthorn *Prunus spinosa* (31%), dog-rose *Rosa canina* (30%), field maple (29%), oak (26%), hazel (21% and ash (20%). The relatively uncommon wild service tree *Sorbus torminalis*, a species associated with ancient woodland, was recorded in three hedgerows that were close or connected to ancient woodland.

Trees

2.17 Across the Site growing in woodland, orchard, hedgerows and arable land, trees were present that could be defined as being veteran i.e. a tree that is of interest ecologically, culturally or aesthetically because of its age, size or condition. Such trees, alongside, ancient woodland must be regarded as irreplaceable habitat in planning terms and should be identified, retained and protected with suitable buffers as part of development planning. While a specific tree survey was beyond the scope of this assessment, to assist with development planning all trees that occurred beyond woodland and orchard canopies as individual standards growing in hedges or on open arable land have been identified by aerial photographic interpretation and plotted on **Figure 3.1** in Chapter 3 of this report.

Orchards

2.18 A small stand of neglected traditional apple and pear orchard of apparent high relative nature conservation and biodiversity interest was present next to the western boundary of the Site (south of the rail line), with many of the old individual fruit trees supporting features indicative of veteran condition (e.g. deadwood, rot and cavities). Most of the trees were overwhelmed by dense bramble patches and rank grassland.

2.19 A single block of mature commercial apple and pear orchard was present in the northern half of the Site and supported a species-poor grassland ground layer managed by frequent mowing. The perimeter and internal boundaries between the apple and pear orchard were planted with a single species screen of high pollarded alder *Alnus glutinosa*, grey alder *Alnus incana* or hybrid poplar.

Ponds and wet ditches

2.20 A total of 27 ponds were present within the Site boundary, of which five were assessed as being permanently wet, 11 as ephemeral (likely to hold standing water at sometimes of the year), and 10 as permanently dry. One of the ponds marked on the OS map was in a private residential garden near Tudeley Church as was not possible to see without entering the garden so was not inspected.

2.21 The location of the ponds with unique reference numbers and their status (permanent, ephemeral or dry) is shown by **Figure 2.2**.

2.22 Drainage ditches supporting shallow water were largely confined to the northern half of the Site, particularly along the length of the northern boundary, with the majority of the other field boundary ditches consisting of dry channels which lacked evidence that they supported permanent water or aquatic plants.

Invasive plants

2.23 A large and established patch of Japanese knotweed was recorded on the southern edge of Pond 2 at TQ 6215 4552.

Fauna

2.24 The previously cited desk-based ecological appraisal sets out the conservation and legislative status of faunal species considered likely to inhabit the site and/or are known to occur locally to the Site.

2.25 Only key fauna considered likely to be dependent upon habitats within the Site that will require follow-up Stage 2 survey to verify presence and distribution within the Site to inform a future detailed development planning application are described below.

Birds

2.26 The Site is likely to support a diverse range of farmland, woodland and garden bird species as well as species that have strong associations with built development. Farmland birds of conservation concern such as skylark and yellow hammer are likely to make use of the Site during the bird nesting period and may also overwinter there. The walkover survey was completed outside of the bird nesting period, and relatively limited bird activity was noted as a consequence during the survey.

2.27 A group of 30 house martins were recorded feeding above a field next to the rail-line in the southern half of the Site during the survey, and house sparrows and starlings were recorded on bird feeders at Bank Farm.

2.28 Follow-up bird survey over the winter and during the bird nesting period will be required to quantify the wintering and breeding bird value of the Site to inform a future planning application for Tudeley Village.

Bats

2.29 Although the Site is dominated by arable land of limited value to foraging bats, the Site's mature trees, woodland, traditional orchard, hedgerows and ponds form a well-connected network of insect generating habitats that will inevitably be utilised by a range of bat species for foraging and commuting throughout the bat active season. It is also highly likely that a number of the Site's mature trees and traditional farm and residential buildings will be used by bats for roosting purposes. It will be essential to confirm roosting use of buildings and trees that would be directly or indirectly impacted by the Tudeley Village development to inform a future planning application.

2.30 We note that a 2011 Natural England European Protected Species Mitigation (EPSM) licence for bats (covering three bat species: common pipistrelle, soprano pipistrelle and brown long-eared bat) was issued for development at Lilley Farm within the Site north of the rail line confirming the presence of at least one historic bat roost in buildings within the Site. Minor bat field evidence indicating use of the derelict pig sties in the south-east corner of the Site by a night feeding/roosting bat – considered most likely to be a brown long-eared bat was recorded during the walkover survey[4]. No evidence of bats was found in association with a partly collapsed timber framed building to the south of the same field in which the pig sties were present. External inspections of the brick and clay tiled oast house buildings at Bank Farm recorded no physical evidence of bats, but the buildings had many potential bat roost features about their exteriors and are considered likely to support roosting bats

2.31 Follow-up bat activity survey will be required to inform a future planning application for Tudeley Village to assess the importance of the Site for bats in line with current best practice guidance for habitats of moderate bat suitability[5].

Badger

2.32 Relatively little badger field evidence, other than the occasional badger stool, was recorded within the Site during the survey. The majority of badger field evidence seen in association with the north side of the rail-line embankment within Network Rail land. Here a number of active badger setts could be seen dug into the embankment, and it appears likely that at least one of these was a high-status main breeding sett.

2.33 No badger setts were seen within the Site beyond the rail-line, but in advance of a planning application a follow-up survey specifically to record badger setts and other badger field evidence should be completed in the spring when ground vegetation is at its lowest and badgers are actively marking their territorial boundaries as it is clear that badgers do make use of the Site.

Dormouse

2.34 Dormouse is known to occur within the local area and, despite no obvious evidence of the species being recorded during the walkover survey i.e. none of the 50+ mammal opened hazel nut shells had been obviously opened by dormouse, the presence of dormouse in

[4] A sample of bat droppings was collected to enable future DNA analysis to verify bat species.

[5] Collins, J. (2016) *Bat Surveys for Professional Ecologists – Good Practice Guidelines*. Bat Conservation Trust, London.

woodland, traditional orchard, scrub and hedgerow habitat across the Site seems highly likely.

2.35 A Natural England EPSM licence for dormouse was granted at Capel Grange Farm circa 1.2km to the south-east of the Site in 2014, and a number of other dormouse EPSM licences are shown to occur around Tonbridge to the west.

2.36 In summary, a presence/absence survey for dormouse in suitable cover habitats across the Site should be completed to verify dormouse presence and distribution to inform a future planning application.

Otter & Water Vole

2.37 The Phase 1 survey has verified a lack of suitable permanent aquatic habitat that could be utilised by otter and water vole within the Site. The previously referred to shallow permanently wet drainage ditch along the northern boundary of the Site had some potential to support both species, but no obvious field evidence of either was seen along the banksides of this waterbody during the walkover or Phase 1 survey.

2.38 While it is recommended that a more detailed verification survey of the ditch is completed to confirm absence of otter and water vole, it appears that both species are unlikely to be adversely impacted by future development proposals on account of the lack of suitable aquatic habitat for both species within the Site.

Great Crested Newt

2.39 A Natural England EPSM licence for great crested newt (GCN) was granted to enable development at Bank Farm in 2016 and confirms the presence of this legally protected amphibian within the Site.

2.40 As highlighted previously a total of 27 ponds have been confirmed to occur within the Site, of which a number may be suitable for GCN. Ponds that hold permanent standing water and lack fish populations are likely to be of greatest value to GCN, but ponds that are ephemeral may also be of value depending on how frequently they dry-up. On balance the majority of ponds within the Site were found to be neglected waterbodies that had reached the end of their hydroseral successions to dry land and appeared to be permanently dry and / or held only very little standing water and were unsuitable for GCN.

2.41 The distribution of ponds within the Site and within 250m of the Site boundary are shown by **Figure 2.2** with 50m buffers also shown around each pond. For reference purposes, GCN spend most of their lives in terrestrial cover habitats close to their breeding ponds and most newts in their terrestrial life stages will be located up to 250m from their ponds with greatest numbers being present in suitable habitats within 50m (so called 'core' GCN habitat).

2.42 Ponds located outside the site boundary as shown on **Figure 2.2** have not been investigated in the field and their presence and status on the ground is not yet confirmed.

2.43 The presence and distribution of GCN within the Site and in ponds located beyond the Site up to 250m from the boundary will need to be assessed as part of development planning, and follow-up GCN survey at the start of the GCN breeding period in March will be required to confirm the habitat suitability of each pond for GCN.

2.44 All ponds with confirmed suitability for GCN (notably those holding standing water in spring) should be subject to a GCN presence/absence survey using an eDNA test kit, and a follow-up six visit GCN population monitoring survey if GCN presence is confirmed.

Reptiles

2.45 Common reptile species such as slow worm, common lizard and grass snake have the potential to utilise infrequently managed grassland areas within the Site for shelter. In reality, however, only relatively small and isolated areas of semi-improved grassland that appeared suitable for reptiles were present in the Site.

2.46 A reptile presence/absence survey of all potentially suitable grassland habitats within the Site should be completed to confirm reptile presence and provide an indication of reptile population size.

Invertebrates

2.47 The woodland, hedgerows, traditional orchard, mature trees and wetland habitats within the Site are likely to support distinct assemblages of terrestrial and wetland invertebrates of which a proportion are likely to possess individual nature conservation interest and biodiversity value, and their presence within the Site would be a material planning concern.

2.48 An invertebrate survey of the site over the course of the spring summer and autumn is recommended to assess the value of the site for invertebrates.

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Tudeley Village
Kent

Habitat map

- Site boundary
- Ancient woodland
- arable
- arable - blackcurrant
- orchard
- broad-leaved semi-natural woodland
- broad-leaved plantation woodland
- mixed plantation woodland
- dense scrub
- poor semi-improved neutral grassland
- improved grassland
- amenity grassland
- standing water
- swamp
- continuous bracken
- tall ruderal
- introduced shrubs
- ephemeral/short perennial
- hard standing
- buildings
- not surveyed (no access)
- flowing water
- hedgerow - species-poor
- hedgerow - species-rich
- individual tree (indicative location)
- scattered scrub

Figure 2.1

Map Scale @ A3: 1:6,500

Surveyed by: RJH	
Survey date: October 2019	
Drawn by: RJH	
Checked by: DP	
Status: Draft	

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0 150 300 metres

N

Tudeley Village
Kent

Existing ponds within 250 m of Site

- Site boundary
- 250 m Site buffer
- permanently wet
- ephemeral
- permanantly dry
- not known
- 50 m pond buffer
- 250 m pond buffer

N

0 200 400 metres

Figure 2.2

Map Scale @ A3: 1:8,000

Surveyed by: DP	
Survey date: October 2019	
Drawn by: RJH	
Checked by: DP	
Status: Draft	

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Appendix A
Ecological Appraisal

Tudeley Village Proposal

Ecological Appraisal

Draft Report

27 February 2019

1844-1A

Tudeley Village Proposal
Ecological Appraisal

Report Release Sheet

Draft/Final:	Draft Report
Issue Number:	1844-1A
Date:	27 February 2019
Client:	The Hadlow Estate Hadlow Place Farm Three Elm Lane Tonbridge TN11 0BW
Main Author(s):	David W. Smith BSc (Hons) PhD MCIEEM
Contributors/Surveyors:	Sean Manley BSc (Hons)
Report Prepared for Issue by:	 …… David W. Smith (Hons) PhD MCIEEM
Report Approved for Issue by:	 …… Alison Hogan BSc (Hons) MSc MCIEEM

Ecological Planning & Research Ltd
The Barn, Micheldever Station, Winchester, Hampshire SO21 3AR
Tel: 01962 794720 email: info@epr.uk.com www.epr.uk.com

Tudeley Village Proposal

Ecological Appraisal

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Executive Summary

The emerging Tudeley Village Proposal has the potential to deliver significant net biodiversity gain and be an exemplar development within the industry by show-casing how important ecological features can be restored, enhanced and created across a landscape. By developing a Ridge to River Ecological Enhancement Strategy, the proposal can ensure habitats within and beyond the Site are joined-up and ecological improvements are co-ordinated across a landscape. This will approach will also ensure relevant constraints are identified and the risk of conflicts in land-use are minimised.

There are opportunities to meet several of the objectives detailed in the Medway & Low Weald Wetlands and Grasslands Biodiversity Opportunity Area (BOA) and the High Weald BOA by creating new important grassland and woodland habitat, by restoring, enhancing and creating ponds, hedgerows and scrub, which in turn could benefit important populations of birds within the RSPB Tudeley Woods reserve.

The assessment identified important ecological habitats and the potential for important fungi, plants and animals to be present within the Zone of Influence of the Tudeley Village Proposal. However, none of the above pose a material constraint on development in this location. Further survey and assessment work is needed to better understand the ecological constraints and opportunities, and this information will be used to inform the emerging masterplan so that appropriate impact avoidance, mitigation and if necessary compensation measures can be identified.

This ecological appraisal provides details on what is known to date, with respect to ecology, and has been produced to support the promotion of the Tudeley Village proposals to Tunbridge Wells Borough Council.

Tudeley Village Proposal
Ecological Appraisal

1. INTRODUCTION

Brief

1.1 Ecological Planning & Research Limited (EPR) was commissioned by The Hadlow Estate to conduct an Ecological Appraisal associated with the emerging Tudeley Village proposals.

Background

1.2 The emerging proposals are at a very early stage and consequently at the time of reporting, there are no detailed development proposals. The emerging plans will be subject to amendments as and when more survey and assessment work is completed.

1.3 This report has been produced to support the promotion of the Tudeley Village proposals to Tunbridge Wells Borough Council (TWBC).

1.4 It is not possible to complete a detailed ecological assessment at this preliminary stage and nor would it be appropriate to do so. Therefore, this report provides a high-level assessment of ecological constraints and opportunities within the Zone of Influence (ZoI) of the proposals. It examines ways to maximise biodiversity net-gain and ensure any development that is brought forwards will be compliant with National and Local Planning Policy with respect to ecology.

1.5 This assessment assumes the emerging draft plans will be subject to revision as and when more detailed survey information becomes available.

The Study Area

1.6 The study area includes the red-line boundary of the Tudeley Village proposal (also referred to as the Site within this report) and the blue-line ownership boundary of the estate. However, the area of the estate west of Somerhill Park and south of the A21 has been largely excluded from this assessment.

1.7 The area within the blue-line ownership boundary is just under 4,000 acres and spans across two Natural England (NE) National Character Areas (NCA); the Low Weald - NCA 121 and the High Weald – NCA 122.

National Character Area 121: Low Weald

1.8 Most, if not all, the land within the red-line boundary appears to fall within the Low Weald NCA. The Low Weald is a broad, low-lying clay vale, which wraps around the northern, western and southern edges of the High Weald. It is predominantly agricultural, supporting mainly pastoral farming because of the heavy clay soils, with horticulture and some arable on lighter soils in the east. It has many densely wooded areas with a high proportion of ancient woodland.

1.9 The NE profile of the Low Weald says:

'The area is generally wet and woody. It is dissected by flood plains and its impermeable clay soil and low-lying nature make many areas prone to localised flooding. Ponds are common, often a legacy of iron and brick-making industries.

Gill woodland is a particular feature and a valuable habitat, scarce elsewhere in the south-east of England.'

1.10 It also states:

'It is important for biodiversity, being rated among the most important NCAs for richness of bat species, bullfinch and lesser-spotted woodpecker, and several plants, including spiked rampion, plus a variety of rare lichens. It also supports rare invertebrates, notably woodland butterflies.'

1.11 Within each Natural Area Profile, there are associated Statements of Environmental Opportunity (SEOs). These have been used to inform potential net biodiversity gains (see **Section 4**). The SEOs of most relevance are:

- ***SEO 1:*** *Protect, manage and significantly enhance the area's intricate and characteristic mix of semi-natural ancient woodlands, gill woodland, shaws, small field copses, hedgerows and individual trees to reduce habitat fragmentation and benefit biodiversity, while seeking to improve and encourage access for health and wellbeing and reinforce sense of local identity;*
- ***SEO 3:*** *Work at a landscape scale to improve the quality, state and structure of all Wealden rivers, streams and standing waterbodies and their appropriate flood plains, taking account of water quality, water flow and hydraulic connection with the flood plain, while seeking to enhance biodiversity, historic features and recreation opportunities and reinforcing sense of place; and*
- *SEO 4: Maintain the sustainable but productive pastoral landscape of the Low Weald, while expanding and connecting semi-natural habitats to benefit biodiversity, regulating soil and water quality by promoting good agricultural practice, and maintaining the extent and quality of unimproved permanent grassland and meadows. Restore degraded neutral grasslands to buffer sites and encourage pollinators and predators for pest regulation.*

National Character Area 122: High Weald

1.12 Most of the land within the study area that sits within the High Weald appears to be beyond the red-line boundary of the village proposals and instead falls within the blue-line ownership boundary of the estate. The High Weald NCA encompasses the ridged and faulted sandstone core of the Kent and Sussex Weald. It is an area of ancient countryside and one of the best surviving medieval landscapes in northern Europe. It consists of a mixture of fields, small woodlands and farmsteads connected by historic routeways, tracks and paths. Wild flower meadows are now rare but prominent medieval patterns of small pasture fields enclosed by thick hedgerows and shaws (narrow woodlands) remain fundamental to the character of the landscape.

1.13 The Natural England (NE) profile of the High Weald says:

'The small scale and historical patterning of the landscape, interwoven woodland, wetland and open habitats, with many hedgerows and historic routeways supporting semi-natural vegetation, provide a flourishing, accessible landscape for wildlife. Exposed sandstone outcrops along the wooded gills provide nationally rare habitat and support an array of ferns, bryophytes and lichens.'

1.14 It also states:

'…The majority of the woodland cover is ancient, managed in the past as coppice with standards surrounded with native woodland flora such as bluebells and wood anemones in the Spring. Evidence of the area's industrial past is prominent, from the large iron-master houses to iron industry charcoal hearths, pits and hammer ponds found throughout the ancient woodlands.'

1.15 All four of the SEOs are relevant. These are:

- ***SEO 1:*** *Maintain and enhance the existing woodland and pasture components of the landscape, including the historic field pattern bounded by shaws, hedgerows and farm woods, to improve ecological function at a landscape scale for the benefit of biodiversity, soils and water, sense of place and climate regulation, safeguard ancient woodlands and encourage sustainably produced timber to support local markets and contribute to biomass production;*
- ***SEO 2:*** *Maintain and restore the natural function of river catchments at a landscape scale, promoting benefits for water quality and water flow within all Wealden rivers, streams and flood plains by encouraging sustainable land management and best agricultural practices to maintain good soil quality, reduce soil erosion, increase biodiversity and enhance sense of place. Maintain and enhance the geodiversity and especially the exposed sandrock;*
- ***SEO 3****: Maintain and enhance the distinctive dispersed settlement pattern, parkland and historic pattern and features of the routeways of the High Weald, encouraging the use of locally characteristic materials and Wealden practices to ensure that any development recognises and retains the distinctiveness, biodiversity, geodiversity and heritage assets present, reaffirm sense of place and enhance the ecological function of routeways to improve the connectivity of habitats and provide wildlife corridors; and*
- ***SEO 4:*** *Manage and enhance recreational opportunities, public understanding and enjoyment integrated with the conservation and enhancement of the natural and historic environment, a productive landscape and tranquillity, in accordance with the purpose of the High Weald AONB designation.*

Biodiversity Opportunity Areas

1.16 Biodiversity Opportunity Areas (BOAs) are County-level initiatives to focus conservation efforts in the best areas. There are two BOAs that cut-across the estate; the Medway & Low Weald Wetlands and Grasslands BOA and the High Weald BOA.

1.17 The BOA targets of most relevance associated with the Medway & Low Weald Wetlands and Grasslands are:

- *Target 1: Achieve a quantifiable improvement in ecological status of all water bodies, as judged by Water Framework Directive indicators;*
- *Target 2: Pursue opportunities for creation of wider river floodplains with riparian corridors around natural drainage channels;*
- *Target 3: Pursue opportunities for the delivery of catchment improvement work, including enhancing, restoring and creating fen, wet woodland, reedbed and wet grassland and action for key species such as otter;*
- *Target 5: Pursue opportunities to create new species-rich neutral grassland, …in blocks of 2ha or more, where this will contribute to meeting the county target of creating 37ha by 2020;*
- *Target 6: Enhance or reinstate woodland management, and extend and reconnect fragmented woodlands where this would not conflict with grassland conservation and enhancement;*
- *Target 7: Continue to encourage the positive management, restoration and re-creation of hedgerows, particularly where this would reconnect other habitats or enhance the landscape, in particular where these have been removed due to agricultural intensification;*
- *Target 9: Maintain, restore, recreate and buffer ponds, particularly to establish networks of sites to support great crested newt; and*
- *Target 10: Action for naturally widely dispersed habitats (ponds, traditional orchards), wildlife associated with arable farmland, and widely dispersed species such as great crested newt will need to focus across the whole of the area and not just within the Biodiversity Opportunity Area boundary.*

1.18 The BOA targets of most relevance associated with the High Weald are:

- *Target 1: Restore, recreate and enhance woodland through active conservation management, particularly locally unique gill woodlands, heathy woodlands and wood pasture. Restore plantations on ancient woodland sites to native woodland;*
- *Target 2: … Pursue opportunities to create new species-rich neutral grassland where this will contribute to meeting the county-wide target of 37ha, in blocks of 2ha or more, by 2020; and*
- *Target 3: Reinforce the intricate matrix of habitats by restoring and recreating heathland, acid grassland, and neutral grassland, and reconnecting fragmented woodlands. Opportunities should be taken for heathland or acid grassland restoration and enhancement as part of woodland management, for example at Bedgebury Forest and Hemsted Forest and in the Pembury area. Additional opportunities for creation of acid grassland and heathland should be pursued where this would contribute to the county-wide target of creating up to 28ha by 2020.*

1.19 The Hadlow Estate appears to sit on a mixture of bedrock geology, which includes: Ardingly Sandstone Member - Sandstone; Lower Tunbridge Wells Sand – Sandstone, Siltstone and Mudstone; Tunbridge Wells Sand Formation – Sandstone and Siltstone, Interbedded; Wadhurst Clay Formation – Mudstone and Weald Clay Formation - Mudstone. There also appears to be a small area of Ashdown Formation – Sandstone, Siltstone and Mudtsone.

1.20 For most of the estate, no superficial geology has been recorded and/or is present. However, River Terrace Deposits (undifferentiated) – Clay and Silt, and Alluvium – Clay, Silt, Sand and Gravel is present north of the rail line and south of the River Medway. There also appear to be pockets of Head – Clay, Silt, Sand and Gravel in some restricted areas.

1.21 The 'Flood Map for Planning' shows that most of the estate is in Flood Zone 1. Only those parts of the estate closest to the River Medway are shown as being in Flood Zones 2 and 3.

1.22 Flood Zones 2 and 3 is land the Environment Agency (EA) has defined as having moderate probability of flooding and the land with the greatest probability of flooding. Flood Zone 1 is land the EA have defined as having a low probability of flooding.

1.23 Further advice from a hydrologist is recommended with respect to the above, and the results of any detailed assessments should be used to inform the proposed measures that will deliver net biodiversity gain. This is particularly important with respect to any proposed wetland areas.

1.24 The above hydrological, geological and soil characteristics should be considered when deciding on the most appropriate habitat creation opportunities. Further, more detailed on-site analysis may also be required. Together, these environmental features may also influence what habitats are present within the ZoI of the Proposals, including those habitat types within and outside of the red-line boundary. However, previous land use and management can have a much greater influence on habitats compared to the underlying geology, especially in intensively farmed landscapes.

Description of Site and Surroundings

1.25 The red-line boundary of the Site lies either side of the London-Ashford Railway, mid-way between Tonbridge and Paddock Wood (see **Map 1**).

1.26 The Site sits between the wooded and ridged landscape of the High Weald and the flood plain of the River Medway. This has led to the 'Ridge to River' concept that underpins some of the masterplan design.

1.27 Most of the Site is arable farmland and improved grassland, with pockets of woodland and field boundaries of trees and hedgerows. There are scattered ponds throughout.

Scope

1.28 This Ecology Appraisal presents information on the potential ecological constraints and opportunities associated with the Tudeley Village proposal. It also provides advice on further actions to address constraints and maximise biodiversity opportunities so that the proposals can proceed in accordance with nature conservation legislation and policy. This includes further survey work to enable features of ecological importance within the potential ZoI, as well as potential impacts upon them, to be better understood.

1.29 This assessment has also been produced to provide TWBC information it may require with respect to allocating the land for future development.

1.30 The results of an Ecological Appraisal are not equivalent to an Ecological Impact Assessment (EcIA). Consequently, potentially significant ecological effects arising from this Proposal are not fully understood at the time of producing this report. The detailed assessment will be

conducted once further survey work has been completed and the development proposals are known in greater detail. However, this report is suitable for the purposes of informing TWBC about allocating the site for future development and as a means of starting initial discussions with relevant stakeholders and consultees.

1.31 EPR's approach takes account of the Chartered Institute of Ecology and Environmental Management's (CIEEM) advice in Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018).

1.32 The following articles of nature conservation legislation and planning policy have been considered as part of this appraisal:

- The Conservation of Habitats and Species Regulations 2017 (as amended);
- The Wildlife and Countryside Act 1981 (as amended);
- The Countryside and Rights of Way (CROW) Act 2000 (as amended);
- The Natural Environment and Rural Communities (NERC) Act 2006 (as amended);
- The Protection of Badgers Act 1992 (as amended);
- The Water Environment (Water Framework Directive) Regulations 2017;
- The National Planning Policy Framework (NPPF) (2019); and
- The emerging TWBC Local Plan.

1.33 In addition to the above, biodiversity objectives detailed in the following documents have been considered:

- Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services;
- The 25 Year Environment Plan;
- The Medway & Low Weald Wetlands and Grasslands BOA;
- Thames River Basin District River Basin Management Plan; and
- The High Weald BOA.

1.34 Further information on the above is provided in **Appendix 1**.

Methods and Constraints

1.35 This Ecological Appraisal has drawn on information collected through an extensive desktop study, a high-level site visit carried out by Dr David W. Smith of EPR on 1st November 2018.

1.36 The methodology used for the Ecological Appraisal has been described in more detail in **Appendix 2**.

1.37 There were no significant constraints encountered during this assessment that could have materially affected the accuracy of the results and recommendations with respect to the objectives of the report.

1.38 The site visit was a high-level walkover and not all parts of the Site, or Study Area were visited. This is not a material constraint because of the very early stages of the emerging proposals.

2. NATURE AND EXTENT OF PREDICTED BIOPHYSICAL CHANGES

2.1 Certain activities associated with the preparation, construction and operation of the Proposal are likely to generate biophysical changes. These changes, and the ZoI over which they are likely to occur, are summarised in **Table 2.1.**

2.2 Given that the development proposals are not sufficiently well advanced or fixed for an accurate assessment of the likely biophysical changes to be identified; and given that further survey work and assessment is required, this section of the assessment details those predicted changes that are typically associated with a development of this nature and scale, in this location. The assumptions are therefore strategic in nature and will be revisited as the layout and designs progress.

Table 2.1: Summary of predicted changes and Zone of Influence (ZoI). This is not an exhaustive list at this preliminary stage

Predicted Change	**ZoI**
Vegetation/habitat clearance (including the potential demolition of buildings)	Site and just beyond
Generation of dust during site clearance and construction	Site and immediate surrounds
Acoustic disturbance and vibration from construction activities	Site and immediate surrounds
Increased traffic-related air pollution and potential to impact upon sensitive habitats during both construction and operational phase	Habitats within 200m or so of affected roads (to be determined by more detailed modelling at a later date)
Lighting (during construction and in long term)	Site and immediate surrounds
Changes to local hydrology, including surface water runoff and groundwater	ZoI to be determined following more detailed hydrological studies
Increased recreational demand off-site, and associated effects including disturbance, trampling and nutrification from dog fouling	Typically, up to *c.*5km from the Site and potentially further for attractive 'destination sites'
Landscape planting, habitat creation and green infrastructure (GI) creation	Site and just beyond
Potential increase in number of domestic pets, including cats	Site and immediate surrounds
Increase in human activity / urban effects, during the operational phase	Site and surrounds where there are publicly accessible areas

3. RESULTS OF ECOLOGICAL APPRAISAL

Introduction

3.1 The findings of this appraisal are set out below, including:

- The potential for important ecological features to be present within the ZoI that could be affected by the development proposals;
- Potentially significant impacts (both positive and negative) that could occur because of the predicted biophysical changes described in Section 2, in the absence of impact avoidance and mitigation measures;
- Opportunities to deliver net gains in biodiversity in accordance with the aspirations of the NPPF; and
- Recommendations for additional survey and assessment work that will be required to inform future, more detailed assessments associated with development at the Site. The further work and assessment will also inform the emerging masterplan, and details associated with impact avoidance, mitigation, compensation and enhancements.

3.2 At this stage, given that the proposals are at an early stage, the description of ecological features has been kept broad. It may be possible to scope out certain ecological features if it later becomes apparent that the development proposals are unlikely to lead to any significant impacts upon them and/or if future survey work indicates they are absent from the ZoI.

Designated Sites

3.3 **Map 1** shows legally protected sites that have statutory designations because of their nature conservation importance, either at an International, National or Local level.

3.4 Pembury Cutting and Pit Site of Special Scientific Interest (SSSI) and Southborough Pit SSSI are not considered in this assessment because they have been designated because of their geological importance.

3.5 **Map 2** shows the location of Local Wildlife Sites (LWS), as well as ancient and semi-ancient woodland and planted ancient woodland sites (PAWS), within and just beyond the Hadlow estate.

Statutory Designated Sites

3.6 There are no Special Protection Areas (SPAs), Special Areas of Conservation (SACs) or Ramsar Sites within 5km of the Site. Furthermore, most of the Site does not fall within any Site of Special Scientific Interest (SSSI) Impact Risk Zone (IRZ).

3.7 The south-west corner of the Site just falls into an SSSI IRZ. However, this is only for planning applications associated with airports, helipads and other aviation proposals. Therefore, the Tudeley Village Proposals are unlikely to impact on any SPA, SAC, Ramsar Site or SSSI.

3.8 Foal Hurst Local Nature Reserve (LNR) and Barnett's Wood LNR are well beyond 1km from the Site, and therefore the proposals are unlikely to impact on these designated sites of Local Importance.

Non-Statutory Designated Sites

3.9 There are several Local Wildlife Sites (LWS) within the estate boundary (see **Map 2**). These are: -

- Tudeley Woods LWS;
- Pembury Walks LWS;
- Somerhill Park, Tonbridge LWS;
- East Tonbridge copses and dykes and River Medway LWS; and
- Vauxhall Lane Woods, Southborough LWS.

3.10 None of the above falls within the Site boundary, but all of them – except for Vauxhall Lane Woods LWS - are likely to fall into the ZoI of the proposals because of their proximity to the Site and the presence of public rights of way. Therefore, it is possible the number of visits by the public will increase as a result of the proposals.

3.11 Vauxhall Lane Woods is harder to access because there appears to be no public rights of way.

3.12 Further assessment work is needed to understand the potential effects on these sites of County Importance. However, the Tudeley Village Proposal provides extensive areas of informal green space and this could be designed in such a way to make it attractive to existing and new residents. In combination with potential improvements in green infrastructure in selective parts of the estate, these measures are likely to pull people away from the nearby LWS.

3.13 Furthermore, if the restoration proposals associated with Stonecastle Farm Quarry are revised, so that they are designed to attract visitors and wildlife, this will further reduce the likelihood of people visiting the existing LWS; especially if the localised and targeted green infrastructure improvements within the estate link areas within the Tudeley Village Proposal to the areas associated with the gravel restoration.

3.14 Any revision of the gravel restoration proposals would need to be agreed with the relevant authority. However, there are significant opportunities to leverage further benefits for people and wildlife over and above any benefits the Tudeley Village Proposal can deliver alone. When combined with targeted measures within the estate, the potential to deliver landscape level benefits, from 'Ridge to River' is substantial.

Other Sites

3.15 Tudeley Woods RSPB reserve sits within the blue-line estate boundary. It is owned by the Hadlow Estate and the reserve exists under a 25-year management agreement, which is reviewed every five years.

3.16 The reserve supports nationally important fungal communities and species, important habitats – such as heathland and important grasslands – and important botanical communities and floral species. There are several important populations of bird species, such as Nightjar *Caprimulgus europaeus*, Lesser Spotted Woodpecker *Dryobates minor*, Turtle Dove *Streptopelia turtur* and Spotted Flycatcher *Muscicapa striata* and three species of reptile were recorded on the reserve

during a survey in 2014. There are also potentially important invertebrate and dormouse populations. These are discussed in the relevant sub-sections below.

3.17 The maintenance and management of the land and habitats within the reserve is the responsibility of the estate.

Important Ecological Habitats

3.18 Woodland that is either identified as ancient and semi-ancient or planted ancient woodland sites (PAWS) on the provisional ancient woodland inventory on the wider Hadlow Estate is shown on **Map 2**. The RSPB reserve also supports an area of heathland and fields that support ecologically important grassland. These habitats are likely to fall within the preliminary ZoI of the Tudeley Village proposal.

3.19 Most of the area within the Site boundary comprises arable farmland and improved grassland. The Kent Habitat Survey 2012 confirms this and maps most of the land within the red-line boundary as 'arable and horticulture' and 'Improved grassland.' These habitats are not ecologically important and therefore they are not discussed further.

3.20 The important ecological habitats within the Site include ancient and semi-ancient woodland, ponds – some of which have been present in the landscape since at least 1868. There are also areas that have been provisionally identified as traditional orchards (**see Map 3**), although further assessment and survey work is needed to confirm the ecological importance of the orchards and whether they are 'traditional.'

3.21 Using the Ordinance Survey six-inch to the mile map, which was published in 1872 and surveyed in 1868, there appear to be pockets of remnant woodland still present in the landscape that have not been identified as being ancient, semi-ancient or PAWS (**Target Note 1, Map 3**). There are also areas where they appear to be remnant field boundary tree lines and/or hedgerows, as well as individual trees. The broad areas are indicated by **Target Note 2 on Map 3**.

3.22 These remnant habitats could be of ecological importance, but further survey work and assessment is required to confirm this. This includes further survey work by an experienced ecologist to identify ancient and/or veteran trees. Survey work should initially target those locations identified by **Target Notes 1 and 2 on Map 3**.

3.23 The Site could also support important arable field margins. However, more detailed field work is needed to confirm this.

3.24 Any important habitats within the ZoI of the proposals could be lost or fragmented during site clearance at the construction phase. Additional risks, in the absence of impact avoidance and mitigation, include soil compaction and impacts during the operational phase as a result of activities by new residents / urban effects (such as setting fires, fly-tipping etc).

3.25 However, there are significant opportunities to restore, enhance and create new habitats of ecological importance. The precise details should be informed by further survey and assessment work, and through consultation with stakeholders.

3.26 An Ecological Enhancement Strategy built around the 'Ridge to River' concept will provide the framework through which net biodiversity gain is delivered. This strategy will also be the means

by which consultees' and stakeholders' views in relation to ecology are incorporated into the emerging masterplan. More detail is provided in **Section 4**, including the target habitats the Tudeley Village proposal could deliver.

3.27 As the emerging development proposals come forwards, the Ridge to River Ecological Enhancement Strategy would incorporate more detailed proposals. Eventually it would form a comprehensive Ecological Management and Enhancement Plan for those areas within the Site and potentially those areas outside of the Site but within the Hadlow Estate. This would ensure the measures to deliver net gain, including habitat management, is coordinated across the estate. This would also minimise potential conflicts between the needs of wildlife, the new residents of Tudeley Village and the on-going operations of the estate.

Flora and Fungi

3.28 Any important floral or fungal assemblages and/or species within the ZoI of the proposals could be affected by:

- Habitat loss and fragmentation;
- Soil compaction or any other activity that disturbs soils that have remained largely undisturbed over a long period of time; and
- Positive effects from the restoration and creation of habitats, as well as by the introduction of positive management of habitats.

Flora

3.29 Most of the known important habitats for flora are within blue-line estate boundary and beyond the red-line boundary.

3.30 The red-line boundary does support habitats that could support ecologically important plant species and/or plant assemblages, including species associated with arable farmland and ancient and semi-ancient woodland.

3.31 Martin Allison (pers comm) indicates Shepherd's-needle *Scandix pectin-veneris* may occur within the farmed area of the estate and the biological records search indicates there are records of this species north of the red-line boundary. This plant occurs mainly on heavy clay soils and favours disturbed ground and arable field margins (Plantlife, undated). It has been classified as critically endangered (Plantlife, undated).

3.32 Martin also reported that True Fox Sedge *Carex vulpina* may occur within the ditch network of the estate and there are records of this species north of the estate boundary.

3.33 The biological records search also indicates there are records of other priority, rare and scarce plant species in the wider landscape, but the lack of precision in the location of these records, as well as those above, makes the data difficult to interpret.

3.34 Overall, there is sufficient evidence to indicate that additional botanical survey work should be conducted to inform the emerging masterplan, future habitat management practices, impact avoidance and mitigation measures, as well as the Ridge to River Ecological Enhancement Strategy.

Fungi

3.35 Parts of the Tudeley RSPB reserve, which is within the estate boundary, are of national importance for their fungal community. One contributory factor, amongst others, is likely to be the fact that the soils have been largely undisturbed over a long-period and had few inputs.

3.36 It's unclear how important the habitats within the Site boundary are for fungi. Contrary to the habitats within the RSPB reserve, the arable fields and improved grasslands that cover most of the Site have had their soils managed and/or been subject to management practices that are likely to have impacted the soil structure and composition. Over a prolonged period, this is likely to have impacted sensitive fungal communities (if present).

3.37 In some areas, analysis of historical maps indicates there are some habitats that have been present in the landscape for *c.*150years or more. Therefore, it's possible some of the associated fungal species and/or communities might be present. Consequently, a targeted survey for fungi is recommended and the results should inform the emerging masterplan, habitat management and biodiversity net-gain measures.

3.38 Given the importance of some parts of the estate for fungi, there is a unique opportunity to engage with the public about this little-known taxon, and to be an exemplar development within the industry by highlighting when and how fungi are considered in development.

Fauna

Invertebrates

3.39 The acid grassland, heathland and ancient woodlands within the estate support habitats suitable for important invertebrate assemblages and/or species. The ancient and veteran trees within the estate are also likely to be important for saproxylic invertebrates.

3.40 The biological records search returned a significant number of invertebrate records, many of which are associated with habitats and/or locations within Tudeley RSPB reserve or just beyond. Other records are associated with aquatic/wetland habitats, including the River Medway.

3.41 The arable farmland, improved grasslands and commercially managed orchards are only likely to support common and widespread terrestrial invertebrates. However, there are pockets of habitat within the ZoI of the proposals and within the Site that could support potentially important invertebrate species and/or assemblages.

3.42 Any important invertebrate populations and/or species within the ZoI of the proposals could be affected by:

- Habitat loss and fragmentation;
- Increased levels of nocturnal lighting, which could impact on the behaviour and life-history of some invertebrates during the construction and operational phase
- Accidental pollution of water bodies during site clearance or construction, which could impact on aquatic invertebrate assemblages;
- The release of predatory fish into ponds by new residents during the operational phase, which could affect aquatic invertebrate assemblages within the pond; and

- The positive effects arising from the restoration and creation of habitats, as well as by the introduction of positive management of habitats.

3.43 The potential adverse effects detailed above can be addressed by appropriate impact avoidance and mitigation associated with invertebrates, and detailed measures will be informed by additional survey and assessment.

3.44 Given the scale of the development proposals, the fact that most of the Site supports habitats of limited value for invertebrates and given the significant opportunities to deliver net-gains, invertebrates are unlikely to pose a material constraint on development in this location.

3.45 The Ridge to River Ecological Enhancement Strategy should identify the best places to create new habitat blocks and corridors for terrestrial and aquatic invertebrates.

Fish

3.46 The River Medway is likely to support various fish species, and the biological records search returned records of Brook Lamprey *Lampetra planeri* and Bullhead *Cottus gobio* from adjoining tributaries. Some of the ponds within the ZoI may also support common and widespread fish species.

3.47 Whilst the River Medway is *c.*760m from the Site boundary, the change in land-use from agriculture to mixed-use development is likely to reduce the amount of nutrients and potentially other inputs from entering the river. Therefore, the proposals could deliver a beneficial effect via improvements in water quality as a result of reduced agricultural run-off. The potential beneficial effects would be dependent on the surface water and green infrastructure (GI) design.

3.48 Furthermore, there could be opportunities to deliver net-biodiversity gains by incorporating habitat enhancements within and adjacent to the River Medway if the Ridge to River Ecological Enhancement Strategy covers areas beyond the boundary of the Site, but within the estate boundary.

Amphibians

3.49 The Site and estate support several ponds that have been present in the landscape since at least 1868. There are also additional ponds that have been created since this time. Some of the ponds within this network are likely to support amphibian populations.

3.50 The biological records search returned records of Great Crested Newt *Triturus cristatus* and Common Toad *Bufo bufo* within the likely ZoI of the development proposals, including one record of Great Crested Newt within the Site boundaries (see **Map 4**). Both are Species of Principal Importance.

3.51 There are also records of the more common amphibian species within the wider landscape, but these are not considered further in this assessment.

3.52 MAGIC shows one approved European Protected Species (EPS) licence associated with Great Crested Newt within the ZoI of the proposals, at Bank Farm, Tudeley. There are also three additional Great Crested Newt EPS licences shown on MAGIC along the A228, close to Pembury Hall.

3.53 The terrestrial habitats within the ZoI of the Proposal provide suitable terrestrial habitat for Great Crested Newt and Common Toad.

3.54 Any breeding Great Crested Newt and/or Common Toad population within the ZoI of the proposals could be affected by:

- Habitat loss and fragmentation;
- Accidental pollution of breeding ponds during site clearance or construction;
- The release of predatory fish into retained breeding ponds by new residents during the operational phase;
- Attrition of animals through various urban-environment related pressures, such as animals becoming entrapped in gully pots or killed by road vehicles; and
- The positive effects arising from the restoration and positive management of the on-site pond network and surrounding terrestrial habitat associated with the development proposals.

3.55 It is relatively easy to address the potential adverse effects detailed above by appropriate impact avoidance and mitigation associated with amphibians. The detailed measures will need to be informed by additional survey and assessment. However, given the scale of the development proposals and the fact that most of the terrestrial habitat – i.e. arable farmland and short, improved grassland - within the Site is of low or negligible quality, Great Crested Newt and Common Toad is unlikely is pose a material constraint on development.

3.56 Furthermore, sensitive restoration and management of the pond network, combined with sensitive master planning and introduction of positive wildlife-friendly habitat management, has the potential to deliver a significant benefit for local amphibian populations. Further details are provided in **Section 4**.

3.57 Great Crested Newt are legally protected by The Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife & Countryside Act 1981 (as amended). Detailed impact avoidance and mitigation measures is likely to be needed to ensure legal compliance.

Reptiles

3.58 The biological records search returned records of Common Lizard *Zootoca vivipara*, Slow-Worm *Anguis fragilis*, Grass Snake *Natrix Helvetica* and Adder *Vipera berus*. **Map 4** shows the location of the closest records of Grass Snake, Slow-Worm and Common Lizard to the Site.

3.59 Most of the Adder records returned were from the Pembury area and are old, with one record from 1960 and another in the 1981-90 period. Furthermore, a survey on Tudeley RSPB reserve in 2014 did not record this species. It is therefore possible this species is no longer present on the RSPB reserve.

3.60 The Adder record closest to the Site is a record from Capel School in 2004. However, the habitats in this area do not appear to be favourable for Adder. Therefore, at this stage, there is doubt as to whether the animal recorded has been correctly identified and consequently this record has not been included on **Map 4**.

3.61 Most of the habitats within the Site boundary are unsuitable for reptiles because it is dominated by arable farmland and improved grassland. However, there are pockets of suitable habitat and given reptiles are present in the landscape, it is likely reptiles occur within the ZoI of the proposals.

3.62 Any reptile population within the ZoI of the proposals could be affected by:

- Habitat loss and fragmentation;
- Accidental killing and injury during site clearance and/or construction;
- Increased predation, persecution and attrition of animals via other urban-environment related pressures, such as increased predation by cats owned by new residents and an increase incidence of animals being killed on roads; and
- The positive effects arising from the restoration and creation of suitable habitat associated with the development proposals.

3.63 It is relatively easy to address the potential adverse effects detailed above by appropriate impact avoidance and mitigation measures, the details of which will need to be informed by additional survey and assessment. However, given the scale of the development proposals and the fact that most of the habitat within the Site is unsuitable for reptiles, they are unlikely to pose a material constraint on development.

3.64 The proposals provide a significant opportunity to deliver net-gains for reptiles by creating new habitat that is also joined and managed in a reptile sensitive way. Further details are provided in **Section 4**.

3.65 All the common and widespread reptile species are afforded legal protected by the Wildlife & Countryside Act 1981 (as amended). Detailed impact avoidance and mitigation measures is likely to be needed to ensure legal compliance.

Birds

3.66 The habitats within the ZoI of the proposals are suitable for a range of bird species, including farmland specialists, such as Skylark *Alauda arvensis*, Linnet *Carduelis cannabina* and Yellowhammer *Emberiza citronella*.

3.67 Whilst unlikely, the habitats are also suitable for certain UK Rare Breeding Bird species (see RBBP, undated) and/or bird species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). For example, Hobby *Falco subbuteo*.

3.68 The wider estate, and especially the habitats within Tudeley Woods RSPB reserve support populations of certain species that are of either County or Local Importance. For example, Nightjar, Turtle Dove, Lesser Spotted Woodpecker, Spotted Flycatcher and Marsh Tit *Poecile palustris*.

3.69 Any important bird population within the ZoI of the proposals could be affected by:

- Habitat loss and fragmentation;
- Accidental destruction of active nests and eggs and/or killing of chicks during site clearance and/or construction;

- Increased predation predation by cats owned by new residents during the operational phase;
- Increased recreational disturbance as a result of a significant increase in new residents; and
- The positive effects arising from the restoration of habitats, positive conservation management of habitats for birds and the creation of new habitats. This includes the provision of built-in nest boxes for species such as Swift *Apus apus*, House sparrow *Passer domesticus* and Starling *Sturnus vulgaris*.

3.70 The potential adverse effects detailed above can be addressed by appropriate impact avoidance and mitigation measures associated with birds. The detailed measures will be informed by additional survey and assessment.

3.71 The Tudeley Village Proposals have the potential to go beyond the mitigation measures detailed above and they could deliver significant net-gains for local bird populations, especially if habitat enhancement measures are delivered across the entire estate via a Ridge to River Ecological Enhancement Plan. Further details are provided in **Section 4**.

3.72 These net-gains could be further leveraged if the restoration proposals for Stonecastle Farm Quarry can be revised/tweaked to better coordinate with the Tudeley Village Proposal. Therefore, the project should seek to engage with the operator of Stonecastle Farm Quarry to see how the Tudeley Village Proposal can link with the future restoration of the gravel workings.

3.73 Birds are afforded legal protected by the Wildlife & Countryside Act 1981 (as amended). Detailed impact avoidance and mitigation measures is likely to be needed to ensure legal compliance.

Bats

3.74 There are several bat maternity and hibernation roosts of different bat species within the landscape surrounding the Site. As a result, several of the associated bat Core Sustenance Zones (CSZ) overlap the Site (see **Maps 5a-5c**). There is also one record of Barbastelle *Barbastella barbastellus* to the west of the Site (see Map 5c) on 20th September 2009.

3.75 The habitats within the ZoI provide areas of habitat that are of at least moderate quality for foraging and commuting bats. Therefore, the habitats within the ZoI could be of importance to foraging bats.

3.76 Any bat assemblage using the habitats within the ZoI is likely to be negatively affected by the following changes (in the absence of impact avoidance and mitigation):

- Loss of roost features associated with on-site buildings and trees;
- Loss and fragmentation of foraging and commuting habitat; and
- Increased levels of nocturnal lighting that may impact upon roost features and/or foraging habitat during both the construction and operational phase.

3.77 Further detailed survey work is needed to better understand how the local bat assemblage uses the habitats within the Site. However, given the results of the biological records search, and

given the size and scale of the proposals, bats are unlikely to pose a material constraint on development.

3.78 Further survey work, in particular a combination of bat activity and static surveys, should be conducted to inform the emerging master plan and identify if there are important areas within the Site for bats, and if so where these are located. Using this information, appropriate impact avoidance and mitigation measures can be developed.

3.79 By enhancing existing woodlands and hedgerows, and by creating new wetlands, wildlife grasslands, woodlands and hedgerows amongst others, there is an opportunity to improve habitats for bats. Further details are provided in **Section 4**.

3.80 The Ridge to River Ecological Enhancement Strategy should identify dark areas, including movement corridors, for bats. The location of these should tie in with habitats that are currently important for foraging and commuting bats, as well as those areas where new bat habitat will be provided. Again, the location will need to be informed by further survey work.

3.81 Additional positive impacts should also include the provision of new, built-in, bat roosting opportunities, the details of which could be incorporated into any Ecological Enhancement Strategy.

3.82 Given that bats are afforded legal protection by The Conservation of Habitats and Species Regulations 2017 (as amended) and The Wildlife and Countryside Act 1981 (as amended), there may also be legal considerations in the event roosting bats are recorded within the Site, and if these roosts are lost or disturbed.

Non-flying Mammals

3.83 There are Hazel Dormouse *Muscardinua avellanarius* records within the Estate boundary and numerous records along the A21 Pembury By-pass, between Tunbridge Wells Hospital and the area close to the Vauxhall Roundabout. There are also two EPS licences associated with this species along the A21, and an additional two EPS licences to the west of the A21.

3.84 The suitable habitats within the estate connect to suitable habitat within the Site, and therefore it is possible / likely Hazel Dormouse occur within the red-line boundary of the proposals.

3.85 Any Hazel Dormouse populations within the ZoI of the proposals could be affected by:

- Habitat loss and fragmentation;
- Accidental killing and injury during site clearance and/or construction;
- Disturbance, particularly at night, because of increased illumination of habitats; and
- The positive effects arising from the restoration and positive management of existing habitat, as well as by the creation of new habitat.

3.86 The scale of the proposals means that even if Hazel Dormouse is present, they are unlikely to pose a material constraint on development if sensitive master planning avoids impacts (where possible) and delivers improvements in habitat connectivity and area. Furthermore, through sensitive management, the quality of habitats could also be improved.

3.87 The biological records search returned records of Water Vole *Arvicola amphibious* north and west of the Site. These were dated between 1967 and 2005. The Mammals of Kent (Young *et a*l., 2015) indicates there are very few records of Water Vole within the landscape surrounding the Site.

3.88 In general, there is only very limited habitat for this species within the ZoI of the proposals with respect to Water Vole. What habitat there appears to be is relatively isolated and potentially ephemeral and therefore this species may not occur within the ZoI of the proposals. However, further work is needed to confirm this.

3.89 Given the above, Water Vole is unlikely to pose a material constraint on development in this location.

3.90 The new wetland in the north-east of the Site provides an opportunity to deliver new habitat for Water Vole, should it still be present in the landscape surrounding the Site. The Ridge to River Ecological Enhancement Strategy should consider how to provide new habitats for this species, whilst minimising the risks of Mink *Neovison vison* using these habitats.

3.91 There are several Otter *Lutra lutra* records associated with the section of the River Medway within and adjoining the estate. Whilst this is beyond the Site boundary and therefore Otter is unlikely to pose a material constraint to the emerging development proposals, there are opportunities to improve habitats for this species within the estate. For example, by the creation of artificial otter holts. The presence of Otter may also partially mitigate the risk of Mink using newly created wetland habitat.

3.92 One Badger *Meles meles* record was returned in the biological records search (see **Map 4**). However, it is likely Badger is more common and widespread than this because it is a relatively common and widespread species. Further survey work to inform any formal planning submission is likely to be required, but this is unlikely to be required to inform the emerging masterplan.

3.93 There are records of Brown Hare *Lepus europaeus* and Hedgehog *Erinaceus europaeus* within the landscape surrounding the estate, and the Site provides suitable habitat within its boundaries. Both are Species of Principal Importance.

3.94 The Brown Hare records are generally historic, and date between 1966 and 2008. Furthermore, the Mammals of Kent (Young *et a*l., 2015) indicates there are few records of this species in the High Weald because of the smaller, steeper fields.

3.95 No further survey work to inform the emerging master plan is needed. However, the emerging master plan and Ridge to River Ecological Enhancement Strategy should consider both species, particularly Hedgehog, because it is much more likely to occur within the ZoI of the proposals. Neither are likely to pose a material constraint on development.

3.96 Given that Hazel Dormice (and Otter) are afforded legal protection by The Conservation of Habitats and Species Regulations 2017 (as amended) and The Wildlife and Countryside Act 1981 (as amended) there could be legal considerations in the event Hazel Dormice are recorded within the Site, and if occupied habitat is lost or animals could be disturbed.

3.97 Water Vole is afforded 'full' legal protection by the Wildlife and Countryside Act 1981 (as amended) and Badger are afforded legal protection by the Protection of Badgers Act 1992 (as amended). All mammals are also afforded legal protection by the Wild Mammals (Protection) Act 1996 (as amended).

3.98 Therefore, there could also be additional legal considerations in the event these species, and other more common mammal species that dig dens or burrows – such as Fox Vulpes *Vulpes Vulpes* – occur within the Site.

4. RECOMMENDATIONS FOR BIODIVERSITY NET GAIN

4.1 The proposals have the potential to be an exemplar development, which clearly demonstrates how biodiversity net gain can be delivered by sensitive master planning and the creation of spaces that benefit people and wildlife.

4.2 The below summarises the potential opportunities for delivering net biodiversity gains in accordance with the aspirations enshrined in the NPPF and 25 Year Environment Plan.

4.3 These should be regarded as 'options' at this early stage, until further work has been conducted to better understand the constraints and opportunities within the Site and beyond.

4.4 The main recommendation is that a 'Ridge to River Ecological Enhancement Plan' is produced and this is used to inform the emerging master plan. The first draft should be produced prior to the masterplan being settled.

4.5 This enhancement strategy should be an evolving, live document, that gets updated as more detailed information becomes known. It should also be used to engage with stakeholders and consultees, and revised where appropriate to accommodate comments.

4.6 The strategy should map where existing important habitats occur both within the Site, but also beyond it. It should also identify where new habitats can be created. It should seek to deliver a landscape level approach across the entire estate, and if possible, link to the restoration proposals at Stonecastle Farm Quarry.

4.7 There is an opportunity to deliver a well-designed, linked-up landscape-scale benefit for wildlife by:

- Mapping where the any important fungal assemblages/species occur within the Site and then identifying sensitive habitat management techniques that will benefit them. If the Ridge to River Ecological Enhancement Strategy covers areas outside of the Site but within the Estate, there could be additional opportunities to safe-guard the nationally important fungal communities and species within Tudeley Woods. In the event a wider area is covered, it is recommended Martin Allison is consulted with respect to fungi because of his extensive knowledge of this location and taxa;
- Restoring the existing pond network within the Site and estate for aquatic invertebrates and amphibians, which might also include the removal of fish in some selected ponds. Further benefits should then be leveraged by creating new ponds specifically designed for these species. The pond network should be linked via suitable terrestrial habitats, such as woodland, scrub, hedgerow and long grassland;
- Creating at least one block of ecologically important grassland, which is at least 2ha in size (but preferably greater in area). Ideally this should be located adjacent to either woodland, scrub and/or wetland habitat and at this early stage the northern part of the Site closest to the new wetlands and River Medway should be investigated as the priority. The grassland type will need to be informed by soil condition and other factors. A large block of ecologically important grassland has the potential to benefit a wide range of flora and fauna;

- Creating additional smaller blocks of long wildlife grassland, which abut wide hedgerows, scrub, and/or woodland. By providing habitat for grassland invertebrates, it should in turn prey items for amphibians, reptiles, birds, bats and terrestrial mammals, such as Hedgehog;
- Restoring and enhancing existing remnant field boundary hedgerows and tree lines in accordance with their current species composition. The precise details should be informed by further survey and assessment work;
- Converting the existing wind-breaks to scrubby hedgerows and by creating new areas of scrub within the Site to benefit Turtle Dove, a red-status bird species that occurs within the Estate. Any new hedgerows should be wide and scrubby and comprise of species such as *Hawthorn Crataegus monogyna* and Blackthorn *Prunus spinosa*. They should be at least 3m tall and 4m wide. This will also benefit other invertebrates, birds, bats and small terrestrial mammals, such as Hedgehog;
- Creating habitat for rare and scarce arable plants, if possible and if surveys indicate these are present within the Site and/or estate. These areas are also likely to create new foraging habitat for Turtle Dove and other seed-eating farmland birds;
- Restoring and enhancing the existing woodland habitats via sensitive management, that also retains standing deadwood for saproxylic invertebrates and birds. The precise details should be informed by further survey and assessment work;
- Creating new woodland that link existing blocks of woodland. Where the hydrological conditions allow, opportunities to create wet woodland should be investigated;
- Restoring and/or creating traditional orchard habitat because of the long historical presence of orchard habitat in this part of Kent. Any orchards within the new Tudeley Village should be managed in a traditional way to maximise benefits for wildlife and they could provide places for the new residents of the village to enjoy 'wild foraging';
- Providing built in bird and bat boxes/bricks in a proportion of new buildings. This should include the provision of Swift bricks and House Sparrow boxes/bricks where they are likely to be close to suitable foraging habitat; and
- Working with partnerships, such as the Medway Catchment Partnership, to help deliver measures to the River Medway that will increase the habitat diversity and biodiversity value, help restore the river to a more natural watercourse, and help improve water quality. This could include measures such as, riparian habitat enhancement/creation and improving fish passage.

5. PROPOSED FURTHER SURVEY WORK

5.1 **Table 5.1** sets out the further surveys recommended in order to inform design, assessment and impact avoidance/mitigation proposals, including the Ridge to River Ecological Enhancement Strategy. The associated timing considerations are also provided.

Table 5.1: *Recommended Further Survey Work*

Survey	Seasonal Timing Constraints / Considerations	Recommended Stage of the Project
Botanical survey of remnant hedgerows, field boundaries, woodland, arable field margins and other habitats	April-June (but timing of arable plant survey is to be confirmed (TBC)	Prior to the detailed masterplan being settled and to inform the Ridge to River Ecological Enhancement Strategy
Ecological tree survey to look for ancient and veteran trees	Not seasonally constrained, but ideally in winter when more features are likely to be visible	Prior to the detailed masterplan being settled and to inform the Ridge to River Ecological Enhancement Strategy
Targeted fungi survey of remnant habitats within the Site	Timing TBC, but likely to be in the late summer/autumn when most fungal fruiting bodies are visible. However, some species have fruiting bodies outside of this period	Prior to the detailed masterplan being settled and to inform the Ridge to River Ecological Enhancement Strategy
Invertebrates – initial habitat assessment (including aquatic habitats) by an experienced and specialist invertebrate ecologist	Ideally Mid-April to June	Habitat assessment should be completed prior to the detailed masterplan being settled and to inform the Ridge to River Ecological Enhancement Strategy
Further invertebrate survey work to be informed by invertebrate habitat assessment	TBC, once habitat assessment completed	If required. Prior to planning submission
Pond assessments for their suitability for breeding Great Crested Newt	Pond assessments are ideally conducted in April and May, but can be conducted between mid-March and September with only minor constraints	Prior to the detailed masterplan being settled and to inform the Ridge to River Ecological Enhancement Strategy
e-DNA survey of ponds that are suitable for breeding Great Crested Newt	Mid-April to late-June	Prior to the detailed masterplan being settled and to inform the Ridge to River Ecological Enhancement Strategy
Great Crested Newt population class assessment (only in ponds where e-DNA confirmed them being present).	Six visits between mid-March and mid-June, with at least three visits	If required. Prior to planning submission

	being between mid-April and mid-May	
Reptile survey comprising an initial visit to set out artificial reptile refugia in potentially suitable reptile habitat. Then seven survey visits to check for the presence of reptiles	Optimal months are April, May and September, although surveys can be conducted in suitable temperature and weather conditions between late March and October.	Prior to planning application
Breeding Bird Survey	Five visits between mid-March and mid-June	Prior to detailed masterplan being settled (due to potential influence on GI layout) and to inform the Ecological Enhancement Strategy
Wintering Farmland Bird Survey	Four visits between November and early March	Prior to planning application
Bat activity survey to include walked transects and deployment of static automated detectors	April-October (Monthly transects) and monthly deployment of static detectors between April and October	Prior to detailed masterplan being settled (due to potential influence on GI layout)
Daytime habitat assessment of trees and buildings that are likely to be impacted by the development proposals to assess their roosting for roosting bats	Any time, but assessment of trees is easier in the winter months	Prior to planning application
Dusk emergence and dawn re-entry surveys of potential roost features that will be affected by the proposals (including buildings and trees).	Scope of works will be subject to the results of the daytime habitat assessment. The optimal survey period is between May and August (inclusive), but some work can be conducted in suitable weather conditions in September.	Prior to planning application
Bat hibernation survey	The need and scope of works will be determined by the daytime habitat assessments	Prior to planning application
Hazel Dormouse nest tube survey	Initial visit to set out nest tubes and boxes, and then follow up visits between April and November (until a score of 20 ‘effort points’ is reached)	Prior to planning application (although some information would be useful to inform the emerging master plan)

Water Vole habitat assessment	Ideally this work would be conducted between July and September, when field signs are most likely to be seen. Any further survey work (considered unlikely) will be informed by the above	Prior to the detailed masterplan being settled and to inform the Ridge to River Ecological Enhancement Strategy
Badger Survey	Anytime (but more effective in winter)	Could be left until post planning consent as Badgers are unlikely to be important ecological feature. Although many local planning authorities prefer this information at the planning submission stage. If any main badger setts are likely to adversely impacted, information on sett locations and site usage where multiple clans are involved, could be useful to inform layout design

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Appendix 1
Summary of Relevant National Legislation and Policy

LEGISLATION

Conservation of Habitats and Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017 (as amended) (known as the "Habitats Regulations") transpose the European Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the "Habitats Directive") into UK legislation.

The Habitats Regulations were amended by the Conservation of Habitats and Species and Planning (Various Amendments) (England and Wales) Regulations 2018 to bring them into line with the latest European case law. As a result, the application of regulation 63 now extends to planning tools such as Neighbourhood Development Orders and Local Development Orders.

The Habitats Regulations provide for the designation of both Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) in the UK, which form part of the Natura 2000 network of protected areas across Europe. The Regulations also prohibit certain actions relating to European Protected Species (EPS), which include *inter alia* Hazel Dormouse, Great Crested Newt, European Otter and all native species of bat.

Further information on SPAs, SACs and European Protected Species is provided in the relevant sub-sections of this Appendix.

Wildlife & Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 is the principal mechanism for the legislative protection of wildlife in Great Britain. Various amendments have occurred since the original enactment. Certain species of bird, animal and plant (including all of the European Protected Species listed above) are afforded protection under Schedules 1, 5 and 8 of the Act. Reference is made to the various Schedules and Parts of this Act (**Table A1.1**) in the section of this Appendix dealing with Legally Protected Species. The Act also contains measures for the protection of the countryside, National Parks, Sites of Special Scientific Interest (SSSIs) and public rights of way as well as preventing the establishment of invasive non-native species that may be detrimental to native wildlife.

Table A1.1: Relevant Schedules of the Wildlife & Countryside Act 1981 (as amended)

Schedule	Protected Species
Schedule 1 Part 1	Protects listed birds through special penalties at all times
Schedule 1 Part 2	Protects listed birds through special penalties during the close season
Schedule 5 Section 9.1 (killing/injuring)	Protects listed animals from intentional killing or injuring
Schedule 5 Section 9.1 (taking)	Protects listed animals from taking
Schedule 5 Section 9.2	Protects listed animals from being possessed or controlled (live or dead)
Schedule 5 Section 9.4a	Protects listed animals from intentional damage or destruction to any structure or place used for shelter or protection
Schedule 5 Section 9.4b	Protects listed animals from intentional disturbance while occupying a structure or place used for shelter or protection
Schedule 5 Section 9.5a	Protects listed animals from being sold, offered for sale or being held or transported for sale either live or dead, whole or part
Schedule 5 Section 9.5b	Protects listed animals from being published or advertised as being for sale
Schedule 8	Protects listed plants from: intentional picking, uprooting or destruction (Section 13 1a); selling, offering for sale, possessing or transporting for the purpose of sale (live or dead, part or derivative) (Section 13 2a); advertising (any of these) for buying or selling (Section 13 2b).
Schedule 9	Prohibits the release of species listed in the Schedule into the wild.
Schedule 9a	Allows environmental authorities to issue species control orders to landowners, obliging them to control/eradicate invasive and/or non-native species.

Further information on legally protected species, designated wildlife sites and invasive non-native species is provided in the relevant sub-sections of this Appendix.

Countryside & Rights of Way Act 2000

Many of the provisions of the Countryside and Rights of Way (CRoW) Act 2000 have been incorporated as amendments into the Wildlife and Countryside Act (1981) and some provisions have now been superseded by later legislation such as The Natural Environment and Rural Communities Act (2006).

The most relevant changes provided by the CRoW Act include the added protection given to SSSIs and other important sites for nature conservation. Importantly, under the Act it became a criminal offence to "recklessly disturb" Schedule 1 nesting birds and species protected under Schedule 5 of the Wildlife and Countryside Act. It also enabled heavier penalties on conviction of wildlife offences.

The Natural Environment and Rural Communities Act 2006

The Natural Environment and Rural Communities (NERC) Act 2006 was intended to raise the profile of biodiversity amongst all public authorities (including local authorities, and statutory undertakers) and to make biodiversity an integral part of policy and decision-making processes. The NERC Act also improved wildlife protection by amending the Wildlife and Countryside Act 1981.

Section 40 (S40) of the Act places a 'Biodiversity Duty' on all public bodies to have regard to the conservation of biodiversity when carrying out their normal functions. This includes giving consideration to the restoration and enhancement of species and habitats.

Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of Principal Importance for the conservation of biodiversity in England. This was published in 2007 and is commonly referred to as the "S41 list". Public authorities have a responsibility to give specific consideration to the S41 list when exercising their normal functions. For planning authorities, consideration for Species and Habitats of Principal Importance will be exercised through the planning and development control processes. Further information on Species and Habitats of Principal Importance is provided in the relevant sub-sections of this Appendix.

The Water Environment (Water Framework Directive) Regulations 2017

Currently, the overriding legislation relating to freshwater is the EU Water Framework Directive (WFD), which is enacted into law in England and Wales through the Water Environment Regulations 2017. The Directive sets out objectives to deliver a better water environment based upon achieving a 'good status' for freshwater bodies. The new concept of 'good status' is a more rigorous measure of environmental quality than previous measures, which now takes into account not just the chemical status but also the ecological health and the extent of artificial physical modification to rivers.

The WFD is based upon the concept of protecting water through the management of river basin districts (RBDs) and requires the implementation of River Basin Management Plans (RBMPs). Regulation 17 of the WFD requires local authorities to 'have regard' of the RBMP when making planning decisions, for example through the granting of planning permission with appropriate planning conditions and/or obligations. These could require measures to be implemented (e.g. Sustainable Urban Drainage Systems (SUDS), grey water recycling etc.) or funds to be provided for habitat enhancement schemes.

The WFD also affects planning policy through the implementation of Programmes of Measures for each river basin district. This involves bringing together funding from various sources and co-ordination of the activities of organisations with an interest in the use of land and water, including developers.

SITES DESIGNATED FOR THE CONSERVATION OF NATURE

There is a hierarchy of nature conservation sites which is based on the level of statutory (legal) protection and the administrative level of importance. Other features of nature conservation interest outside designated sites may also be a material consideration in the determination of planning applications.

Statutory Sites: International

Ramsar Sites, Special Areas of Conservation (SAC) and Special Protection Areas (SPA)

The Conservation of Habitats and Species Regulations 2017 (as amended) provide the primary legal basis for the protection of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) in Great Britain.

SACs are sites which support internationally important habitats and/or species listed as being of Community Importance in the Annexes of the European Habitats Directive 92/43/EEC. SPAs are sites which support internationally important numbers of bird species listed as being of Community Importance in the Annexes of the European Birds Directive 2009/147/EC. Together, SACs and SPAs make up the Natura 2000 network of Sites of Community Importance throughout Europe. They are often referred to as “European sites”.

Ramsar sites are wetlands of international importance and are, as a matter of national planning policy, subject to the same strict protection as SACs and SPAs. The majority of terrestrial Ramsar sites in England are also notified as SPAs and/or Sites of Special Scientific Interest (SSSIs).

Any plan or project considered likely to affect a SAC, SPA or Ramsar site must be subject to a Habitats Regulations Assessment (HRA), as set out under Regulation 63 (and Regulation 105 in respect of Land Use Plans) of the Habitats Regulations 2017 (as amended).

The local authority (or other ‘competent authority’) carries out the HRA, but the onus is on the developer to provide the necessary information to inform this process, usually in the form of a report.

Under the Habitats Regulations 2017 (as amended), the competent authority must determine in the first instance whether a proposed development is likely to have a significant effect on the European or Ramsar site, either alone or in combination with other plans and projects. This stage of the HRA process is known as ‘screening’.

If a likely significant effect cannot be precluded (screened out) on the basis of objective information, the competent authority must undertake an ‘Appropriate Assessment’ to fully assess these implications against the site’s conservation objectives. A precautionary approach must be taken with respect to determining whether or not there would be a significant effect, and the appropriate nature conservation body (in most cases Natural England) should be consulted. Except in certain exceptional circumstances prescribed by the Regulations where there are imperative reasons of overriding public interest for allowing a development to proceed, the competent authority may not undertake or authorise the plan or project until they have established (based on the conclusions of the Appropriate Assessment) that the activity will not adversely affect the integrity of the European or Ramsar site. This should be the case where no reasonable scientific doubt remains as to the absence of such effects.

Statutory Sites: National

Nationally important sites include Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs). A development proposal that is likely to affect a nationally important site will be subject to special scrutiny by the local planning authority and Natural England. Certain operations may be permitted. Any potentially damaging operations that could have an adverse effect directly or indirectly on the special interest of the site will not be permitted unless the reasons for the development clearly

outweigh the nature conservation and/or geological value of the site itself and the national policy to safeguard such sites, as set out in Section 15 of the National Planning Policy Framework (NPPF).

Sites of Special Scientific Interest

The Wildlife and Countryside Act 1981 (as amended) and the CRoW Act 2000 provide the primary legal basis for the protection of Sites of Special Scientific Interest (SSSIs). These sites have been designated to capture the best examples of England's flora, fauna, geological or physiographical diversity.

National Nature Reserves

National Nature Reserves (NNRs) are declared under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981, as amended by the Environmental Protection Act 1990. They are managed to conserve their habitats or to provide special opportunities for scientific study of the habitats communities and species represented within them. NNRs represent the very best parts of England's SSSIs. The majority of NNRs also have European nature conservation designations.

Statutory Sites: Regional/Local

Local Nature Reserves

Local Nature Reserves (LNRs) are declared by local authorities under the National Parks and Access to the Countryside Act 1949 as living green spaces in towns, cities, villages and countryside. They provide opportunities for research and education, or for simply enjoying and having contact with nature. LNRs are usually protected from development through local planning documents which may be supplemented by local by-laws.

Non-Statutory Sites

Local Wildlife Sites

Local planning authorities may designate non-statutory sites for their nature conservation value based on important, distinctive and threatened habitats and species within a national, regional and local context. These sites are not legally protected but are given some protection through the planning system. These sites may be declared as 'County Wildlife Sites', 'Sites of Importance for Nature Conservation' (SINCs), or 'Sites of Nature Conservation Importance' (SNCIs) in local and structure plans. Non-statutory sites are a material consideration when planning applications are being determined. The precise amount of weight to be attached, however, will take into account the position of the site in the hierarchy of sites as set out above. Further information is typically provided in local level planning policy.

Nature Conservation in Areas Outside Designated Sites

Various other features exist outside designated sites that are important for the conservation of nature and which are a material consideration in the planning system.

Habitats of Principal Importance in England

Fifty-six habitat types have been identified as Habitats of Principal Importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006. Although these habitats are not legally

protected, the NPPF, Government Circular 06/05, good practice guidance and the NERC Act place a clear responsibility on planning authorities to further the conservation of these habitats. They can be a material consideration in planning decisions, and so developers are advised to take reasonable measures to avoid or mitigate impacts to prevent their net loss and to enhance them where possible. Additional guidance to developers is typically provided in local level planning policy.

The S41 list also includes species as explained below under 'Species of Principal Importance in England'.

Networks of Natural Habitats

Networks of natural habitats link sites of biodiversity importance and provide routes or stepping stones for the migration, dispersal and genetic exchange of species in the wider environment. Examples include rivers with their banks, traditional field boundary systems (such as hedgerows), ponds and small woods. Local planning authorities are encouraged through the NPPF to maintain networks by avoiding or repairing the fragmentation and isolation of natural habitats through planning, policies and development control.

Hedgerows

Hedgerows can act as wildlife corridors that are essential for migration, dispersal and genetic exchange of wild species. Hedgerows that qualify as a Habitat of Principal Importance under S41 of the NERC Act 2006 are a material consideration in the planning system.

Under the Hedgerow Regulations 1997, it is an offence to remove a hedgerow without submitting a notice to the Local Planning Authority and waiting for their decision. The Regulations are aimed at countryside hedges and do not apply to hedges around private dwellings or where planning permission has been granted for a project that includes hedge removal. Hedgerows that satisfy wildlife, archaeological, historical or landscape criteria qualify as 'important' under the Regulations. If a hedgerow is not important, the Local Planning Authority may not prevent its removal; however, Local Planning Authorities are required under the Regulations to protect and retain Important hedgerows unless satisfied that the circumstances justify its removal.

Tree Preservation Orders

Tree Preservation Orders (TPOs) may be declared under the Town and Country Planning Act 1990 and the Town and Country Planning (Trees) Regulations 1999 to protect individual trees and woodlands from development and cutting. TPOs are designed to preserve amenity or landscape conservation. The important of trees as wildlife habitat may be taken into account, but alone is not sufficient to warrant a TPO. For this reason, TPOs do not fit comfortably under the remit of nature conservation and are generally dealt with by an arboricultural consultant rather than an ecologist. Further guidance on TPOs in relation to development is available from the Department for Communities and Local Government.

Ancient Woodland & Veteran Trees

Ancient woodlands are defined as areas continuously wooded since at least 1600 AD. Even an ancient wood which has been replanted may still have remnants of ancient woodland wildlife and historical features and has potential to be restored. Ancient woodland is not a statutory designation and does not provide legal protection, but local authorities are advised under the NPPF and National Planning Practice Guidance (NPPG) not to grant planning permission for any development that would result in

the loss or deterioration of ancient woodland, ancient trees or veteran trees unless there are 'wholly exceptional reasons' and 'a suitable compensation strategy in place'. Local Planning Authorities must take into account Natural England and the Forestry Commission's *Standing Advice for Ancient Woodland and Veteran Trees,* available on the www.gov.uk website.

Surface & Ground Waters

Surface waters (including flowing and standing water) and ground water can directly and indirectly impact upon the conservation of nature.

Guidance on pollution prevention is hosted on the Government's website and focuses on regulatory requirements. This covers topics including the prevention of pollution if you are a business, managing business and commercial waste, oil storage, working on or near water, and managing water on land. Careful planning and the application of these guidelines can help reduce the risk of construction and maintenance work causing pollution to surface and ground waters. Some activities with the potential to impact watercourses or groundwater may require consent under the Water Resources Act 1991.

Water Resources Act (WRA) 1991

Under the WRA there is strict regulation of discharges (including sediment, chemicals, nutrients) to rivers, lakes, estuaries and groundwaters. It also aims to ensure that polluters cover the costs associated with pollution incidents.

SPECIES PROTECTION

Legally Protected Species

The species listed in the following subsections are protected by law in England. When preparing a planning application, it is essential to determine the presence or likely absence of legally protected species and the extent to which they may be affected by a proposed development. This can best be achieved by undertaking surveys early in the planning process. Avoidance and/or mitigation measures may be required to address any predicted impacts upon protected species and may necessitate a licence. The Government website offers standing advice from Natural England and DEFRA which can be applied to planning applications that affect protected species.

Bats

There are 18 species of bat in the UK, seven of which are Species of Principal Importance in England. All bats and bat roosts are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Bats are also a European Protected Species protected under the Habitats Regulations 2017 (as amended). It is an offence to:

- Intentionally or deliberately kill, injure or capture bats;
- Intentionally, deliberately or recklessly disturb bats in such a way as to be likely to significantly affect the ability of any significant group of bats to survive, breed, or rear or nurture their young or the local distribution of or abundance of a species of bat;
- Intentionally, or recklessly damage, destroy or obstruct any place used for shelter or protection (i.e. bat roosts) or intentionally or recklessly disturb a bat whilst it is occupying such a place;

- Damage or destroy a breeding site or resting place of a bat; and
- Possess, sell or transport a bat, or anything derived from it.

Development proposals affecting bats or their roosts require a European Protected Species mitigation licence from Natural England.

Great Crested Newt

The Great Crested Newt *Triturus cristatus* is a Species of Principal Importance in England. It is legally protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and is afforded significant further protection as a European Protected Species under the Habitats Regulations 2017 (as amended). Collectively, this legislation makes it an offence to:

- Intentionally or deliberately kill, injure or capture Great Crested Newts;
- Intentionally, deliberately or recklessly disturb Great Crested Newts in such a way as to be likely to significantly affect the ability of any significant group of Newts to survive, breed, or rear or nurture their young or the local distribution of or abundance the species;
- Intentionally or recklessly damage, destroy or obstruct any place used by Great Crested Newts for shelter or protection, or intentionally or recklessly disturb a Great Crested Newt whilst it is occupying such a place;
- Damage or destroy a breeding site or resting place of a Great Crested Newt; and
- Possess, sell or transport a Great Crested Newt, or anything derived from it.

Development proposals affecting the Great Crested Newt require a European Protected Species mitigation licence from Natural England.

Intentional or reckless behaviour leading to an offence being committed as detailed above may result in maximum penalties of:

- Up to £5,000 fine per offence committed;
- A custodial sentence of up to six months instead of, or in addition to, a fine; and/or
- Items of equipment involved in committing the offence may be seized and detained.

In addition to the above penalties, it is likely that any EPS mitigation licence obtained for a site will be revoked whilst any wildlife offence is investigated. This will lead to immediate temporary and, depending on investigation outcomes, possible permanent restrictions on site works, as well as associated cost.

Hazel Dormouse

The Hazel Dormouse *Muscardinus avellanarius* is a Species of Principal Importance in England. It is legally protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and is afforded significant further protection as a European Protected Species under the Habitats Regulations 2017 (as amended). Collectively, this legislation makes it an offence to:

- Intentionally or deliberately kill, injure or capture Dormice;

- Intentionally, deliberately or recklessly disturb Dormice in such a way as to be likely to significantly affect the ability of any significant group of Dormice to survive, breed, or rear or nurture their young or the local distribution of or abundance of the species;
- Intentionally or recklessly damage, destroy or obstruct access to places used by Dormice for shelter or protection (whether occupied or not) or intentionally or recklessly disturb a Dormouse whilst it is occupying such a place;
- Damage or destroy a breeding site or resting place of a Dormouse;
- Possess or transport a Dormouse (or any part thereof) unless under licence; and
- Sell or exchange Dormice.

Development proposals affecting the Dormouse require a European Protected Species mitigation licence from Natural England.

European Otter

The European Otter *Lutra lutra* is a Species of Principal Importance in England. It is legally protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and is afforded significant further protection as a European Protected Species under the Habitats Regulations 2017 (as amended). Collectively, this legislation makes it an offence to:

- Intentionally or deliberately kill, injure or capture Otters;
- Intentionally, deliberately or recklessly disturb Otters in such a way as to be likely to significantly affect the ability of any significant group of Otters to survive, breed, or rear or nurture their young or the local distribution of or abundance of Otters;
- Intentionally or recklessly damage, destroy or obstruct access to places used by Otters for shelter or protection (whether they occupied or not) or intentionally or recklessly disturb an Otter whilst it is occupying such a place;
- Damage or destroy a breeding site or resting place of an Otter;
- Possess or transport an Otter (or any part thereof) unless under licence; and
- Sell or exchange otters.

Development proposals affecting the Otter require a European Protected Species licence from Natural England.

Reptiles

All four of the widespread British species of reptile, namely the Common Lizard *Zootoca vivipara,* Slow-Worm *Anguis fragilis*, Grass Snake *Natrix helvetica (*previously *Natrix natrix)* and Adder *Vipera berus*, are Species of Principal Importance in England. They are protected under Schedule 5 (Sections 9.1, 9.5a, 9.5b) of the Wildlife & Countryside Act 1981 (as amended) from intentional killing, injury and trade. The habitat of the four widespread reptiles is not legally protected; however the replacement of habitat lost through development may be required through the planning system. Mitigation for these species is not subject to licensing by Natural England but should nonetheless be planned to minimise disturbance and potential project delays.

Water Vole

The Water Vole *Arvicola terrestris* is a Species of Principal Importance in England. The legal protection for Water Voles was increased in 2008 to fully cover the species under Section 5 of the Wildlife and Countryside Act 1981 (as amended). The legislation makes it an offence to:

- Intentionally or deliberately (but not recklessly) kill, injure or take Water Voles;
- Intentionally, deliberately or recklessly damage, destroy or obstruct access to any structure or place used by Water Voles for shelter or protection;
- Intentionally, deliberately or recklessly disturb Water Voles whilst they occupy a structure or place used for that purpose;
- Sell Water Voles or offer or expose for sale or transport for sale; and
- Possess or control live or dead Water Voles or derivatives.

Developers who wish to maintain, build on or alter areas used by Water Voles must ensure that unnecessary damage is avoided, and all reasonable steps are taken to minimise impacts on Water Voles and their burrows. The Wildlife and Countryside Act provides a defence against the offences listed above, provided the action is the incidental result of an otherwise lawful operation and could not reasonably have been avoided.

A licence to displace Water Voles must be obtained from Natural England before conducting any activities involving displacement operations (this is different to a conservation licence, which is required for survey methods that involve disturbing Water Voles or their burrows or capturing them). To obtain a displacement licence, it is necessary to demonstrate that the activity/activities will result in a conservation benefit for Water Voles.

Birds

49 species of bird are listed as Species of Principal Importance in England. All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended), making it an offence, with certain exceptions (e.g. game birds), to intentionally kill, injure or take any wild bird and to take, damage or destroy their nests or eggs.

Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) affords extra protection for certain species and applies harsher penalties for offences. Any intentional or reckless disturbance of a Schedule 1 bird, whilst it is nesting or rearing dependent young, constitutes an offence.

Regulation 10 of the Conservation of Habitats and Species Regulations 2017 (as amended) requires appropriate authorities and conservation bodies, in the exercise of their functions, to take such steps that they consider appropriate in order to secure "*the preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in the United Kingdom, including by means of the upkeep, management and creation of such habitat (…)*".

European Badger

The Protection of Badgers Act 1992 offers considerable protection to both badgers and badger setts. This legislation was enacted to protect the European Badger *Meles meles* against baiting and not as a means of species recovery as it is common in England. It is an offence to cruelly treat, kill or take

Badgers, but it is also illegal to intentionally or recklessly damage or disturb a badger sett while it indicates signs of current use by a Badger.

The Government website contains information to help developers and their proponents avoid sett disturbance and to identify setts that are in current use. It is important to maintain adequate foraging territory in development proposals affecting badgers as the destruction or severance of large areas of foraging territory could also be taken to include habitat loss. Licences to disturb Badgers and their setts in respect of development may be issued by Natural England provided provisions are made to minimise disturbance.

Wild Mammals

All wild mammals are protected against cruelty under the Wild Mammals (Protection) Act 1996, which 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.

White-Clawed Crayfish

The White-Clawed Crayfish *Austropotamobius pallipes* is a Species of Principal Importance in England. Outside designated sites (e.g. SACs), the White-Clawed Crayfish receives limited protection under Schedule 5 (Sections 9.1, 9.5a and 9.5b) of the Wildlife and Countryside Act 1981 (as amended), the Habitats Regulations 2017 (as amended) and the Salmon and Freshwater Fisheries Act 1975. This legislation does not provide strict protection of individual crayfish or their habitats but it does prevent prohibit the capture of this species without a licence. A conservation licence must therefore be obtained from Natural England before conducting any mitigation involving the capture and handling of this species.

European Eel

The Eels Regulations 2009 (as amended in 2011) aim to combat the population decline of the European eel *Anguilla anguilla* through protection of migration routes and controls on the numbers of eels allowed to be taken. In order to protect migration routes, any structures which may prevent upstream or downstream migration of eels must be reported to the Environment Agency. Eel passages must be constructed where needed and maintained in a good condition.

Freshwater Fish

The Salmon and Freshwater Fisheries Act 1975 protects freshwater fish, particularly salmon and trout. It prevents the destruction of spawning grounds and the obstruction of migratory passages through the building of weirs, dams etc.

Licences for Development

Licences are required to permit activities prohibited under wildlife legislation, namely the disturbance or capture of protected species or damage to their habitats. Natural England is the licensing authority in England. Licences are only issued for certain purposes, which are set out in the legislation, and only where there is a valid justification. The licences most relevant to development scenarios are discussed below.

European Protected Species Mitigation Licences

A European Protected Species mitigation licence (EPSL) is required from Natural England to undertake any development that is reasonably likely to result in an offence in respect of a European Protected Species protected under Schedule 2 of the Habitats Regulations 2017 (as amended); including inter alia all species of bats, Hazel Dormouse, Great Crested Newt and European Otter. Natural England must be satisfied that the following three tests are satisfied before it will issue a licence covering a European Protected Species:

1. The proposal is necessary to preserve public health or public safety, or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;
2. There is no satisfactory alternative; and
3. The proposal will have no detrimental effect to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

Conservation Licences

In the context of development, conservation licences are normally only relevant to mitigation involving the capture of Water Voles or White-Clawed Crayfish. Conservation licences are granted to permit the trapping and translocation of these species on the condition that the development activity is properly planned and executed and thereby contributes to the conservation of the population of the species.

Badger Licences

Licences to disturb Badgers and their setts in respect of development may be issued by Natural England, provided provisions are made to minimise disturbance.

Species of Principal Importance in England

943 species have been identified as being of Principal Importance for the conservation of biodiversity in England under Section 41 (S41) of the NERC Act 2006. The S41 list includes species found in England which have been identified as requiring action under the now superseded UK Biodiversity Action Plan 2007 (plus the Hen Harrier). While many of these species may not be legally protected (some are protected under the legislation described above), there is a clear responsibility on local planning authorities to further their conservation. These species can be a material consideration in development control decisions and so developers are advised to take reasonable measures to avoid or mitigate impacts to prevent the net loss of these species, and to enhance their habitats where possible. Additional guidance to developers is typically provided in local level planning policies.

Invasive Non-Native Species

There are a number of species not ordinarily resident in the UK, such as Japanese Knotweed. Those which pose a significant threat, if uncontrolled, to our ecology and economy are listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). For an offence to be committed, a species must be released or allowed to escape into the wild. For example, if a plant listed on Schedule 9 is not adequately controlled by a land owner, once they are aware that it is present, and the species is allowed to spread into adjoining areas, then this could constitute an offence.

Species Control Orders

A new schedule 9A was inserted into the Wildlife and Countryside Act 1981 (as amended) by Sections 23 to 25 of the Infrastructure Act 2015. This gives environmental authorities (in England the Secretary of State, Environment Agency, Natural England and the Forestry Commission) the power to offer 'species control agreements' to landowners in respect of invasive and/or non-native species, such as Japanese Knotweed. If the landowner does not comply with a species control agreement, or refuses to enter into one, the environmental authority may issue a 'species control order', requiring the owner to eradicate or control the species, or to allow the environmental authority access to carry out these operations themselves.

If the owner does not comply with the species control order, the maximum penalty if convicted is a fine of up to £40,000 and/or imprisonment for up to 51 weeks. The environmental authority can also recover costs for carrying out the necessary work themselves.

PLANNING POLICY & GUIDANCE

This section set out the main planning policy and government guidance that relates to the conservation of nature at all levels of government.

National Level

National Planning Policy Framework 2019

The National Planning Policy Framework (NPPF) 2019 sets out the Government's planning policies for England and how these should be applied in local-level policy and decision making. The NPPF has a clear "presumption in favour of sustainable development" (paragraph 11), with economic, social and environmental objectives. This presumption does not apply where a plan or project has failed the 'appropriate assessment' test under the Habitats Regulations (paragraph 177).

Section 15 of the NPPF provides guidance on conserving and enhancing the natural environment through the planning system, as summarised below.

Firstly, planning policies and decisions should contribute to and enhance the natural and local environment by applying the following key principles:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland; and
- preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability.

Section 15 also requires planning policies and decisions to limit the impact of artificial light pollution on nature conservation.

Secondly, when determining planning applications, local planning authorities should apply the following key principles:

- if significant harm resulting from a development cannot be avoided, adequately mitigated or (as a last resort) compensated for, then planning permission should be refused;
- proposed development that is likely to have an adverse effect on a SSSI (either individually or in combination with other developments) should normally be refused;
- planning permission should normally be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and aged or veteran trees, unless there are 'wholly exceptional reasons' and a suitable compensation strategy exists; and
- development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

In the case of SSSIs and irreplaceable habitats, exceptions may be made if it can be clearly demonstrated that the benefits of the development, in that location, clearly outweigh the costs in terms of loss or adverse impacts.

Section 15 specifies that listed or proposed Ramsar sites, potential European sites, and sites identified or required as compensatory measures for adverse effects on designated/listed or potential/proposed European and Ramsar sites should be given the same protection as designated European sites.

Section 15 includes the following text on air quality:

- Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas;
- Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications; and
- Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan.

The NPPF also sets out principles for plan-making, including the allocation of land with the least environmental or amenity value, and taking a strategic approach to maintaining and enhancing networks of habitats and green infrastructure by identifying, mapping and safeguarding components of local wildlife-rich habitats, wider ecological networks, wildlife corridors and stepping stones, and those

areas identified by national and local partnerships for habitat management, enhancement, restoration or creation.

Government Circular 06/05: Biodiversity and Geological Conservation

The Government produced Circular 06/05 to provide guidance on the application of the law to the conservation of nature. Although the document is in the process of being updated, Paragraphs 98 and 99 remain relevant as they set out the following principles and obligations:

- The presence of protected species is a material consideration when determining a development proposal;
- Local authorities should consult with Natural England before granting permission, and consider imposing planning conditions or obligations to secure the long-term protection of the species;
- The presence of protected species, and the extent to which thy may be affected by the proposed development, must be established before permission is granted;
- Given the delay and cost that may be involved, developers should not be required to undertake surveys for protected species unless there is a reasonable likelihood of the species being present and affected by the development.

MHCLG Planning Practice Guidance

Revised and updated Planning Practice Guidance (PPG) was launched by the Department for Communities and Local Government (now the Ministry of Housing, Communities and Local Government, MHCLG) as a web-based tool in March 2014 to accompany the NPPF. The webpages are set out in a Q&A format. The PPG consolidates and supersedes existing guidance on a range of planning-related topics, clarifies some of the statements made in the NPPF, and provides links to relevant legislation and other sources of advice.

The Guidance outlines a number of important principles in relation to nature conservation and biodiversity, including the need to integrate biodiversity into all stages of the planning process and to consider opportunities to enhance biodiversity and contribute to the Government's commitments and targets set out in *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*.

The guidance also requires that "an ecological survey will be necessary in advance of a planning application if the type and location of development are such that the impact on biodiversity may be significant and existing information is lacking or inadequate", and recommends that "local planning authorities should only require ecological surveys where clearly justified, for example if they consider there is a reasonable likelihood of a protected species being present and affected by development."

Other guidance

In addition to the Planning Practice Guidance, various other forms of guidance and standards are available in relation to biodiversity and the development process. Of particular note is *British Standard BS42020:2013 Biodiversity – Code of practice for planning and development*, published in August 2013, which replaces *Planning to Halt the Loss of Biodiversity (PAS 2010): Biodiversity conservation standards for planning in the United Kingdom*.

This document is designed to complement the NPPF and is aimed at organisations concerned with ecological issues throughout the planning process, including local authorities, developers, planners and ecological consultants. It sets out step-by-step recommendations on how to incorporate biodiversity considerations at all stages of the planning process, with a focus on the provision of consistent, high quality and appropriate ecological information, effective decision making, and high standards of professional conduct and competence.

BIODIVERSITY PLANS AND STRATEGIES

The NERC Act 2006 places a duty on local authorities to have due regard to biodiversity when exercising their normal functions, and the NPPF requires planning policies to "promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species and identify and pursue opportunities for securing measurable net gains for biodiversity" (paragraph 174). These targets are set out in a range of biodiversity plans and strategies from the international through to the district level.

An overview of the key biodiversity plans and strategies in the UK, and their implications for development, are set out below.

National level

The *UK Biodiversity Action Plan 2007* (UK BAP) has been superseded by the *UK Post-2010 Biodiversity Framewo*rk and individual national biodiversity strategies. The UK Framework sets out the overarching vision, strategic goals and priority activities for the UK's work towards international biodiversity targets (known as the 'Aichi Targets'), as agreed by 192 parties at the UN Convention on Biological Diversity in 2010.

In England, *Biodiversity 2020: A strategy for England's wildlife and ecosystem services* is the national biodiversity strategy, which has the stated mission "(…) to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people." In order to focus activity and assess performance in achieving this mission, Biodiversity 2020 sets out objectives relating to terrestrial and marine habitats and ecosystems, species and people.

Local level

While BAPs at the national level have now been superseded by *the UK Post-2010 Biodiversity Framework* and *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*, many county and district level BAPs still exist. In Kent, one example of this are the Biodiversity Opportunity Areas.

Delivering Net Gain

Opportunities should also be sought to achieve a net gain (i.e. enhancement) of biodiversity. Support for biodiversity enhancement is provided in the Public Authority 'Biodiversity Duty' under the NERC Act 2006 and in the key principles of the NPPF, and increasingly in local level planning policy.

Enhancement projects may not just benefit biodiversity. There are many functional benefits to be won from strategically planned green infrastructure projects such as semi-natural urban green spaces, sustainable urban drainage schemes (SUDS) and green roofs. Planning conditions and obligations are

increasingly being used to mandate biodiversity enhancement on or off a development site, either through design or financial support.

Appendix 2
Summary of Assessment Method

This Ecological Appraisal has taken account of guidance in The Chartered Institute of Ecology and Environmental Management (CIEEM) *Guidelines for Ecological Impact Assessment in the UK and Ireland* (2018).

DESK STUDY METHODOLOGY

A desk study was carried out in order to gather and refer to existing biodiversity and contextual information with respect to the ZoI of the emerging proposals. This involved interrogation of internet resources, including the Multi-agency Geographic Information for the Countryside (MAGIC) and National Biodiversity Network (NBN), aerial photos, current Ordnance Survey maps and historical maps. Reference was also made to local strategies and initiatives relating to biodiversity.

A request was made to Kent & Medway Biological Records Centre (KMBRC) for any existing biological records in their database. The local records search, and other desktop research, used a 2km buffer from the blue-line estate boundary for nationally and locally important features and a 5km buffer for sites of European importance.

ASSESSMENT METHODOLOGY

A high-level field visit was completed by David Smith and Sean Manley on the 1st November 2018. Not all areas within the Site or estate were visited and the surveyors mostly used the existing Public Rights of Way (PROW) to view habitats and ecological features of potential interest. In some areas, the surveyors did move away from the PROWs.

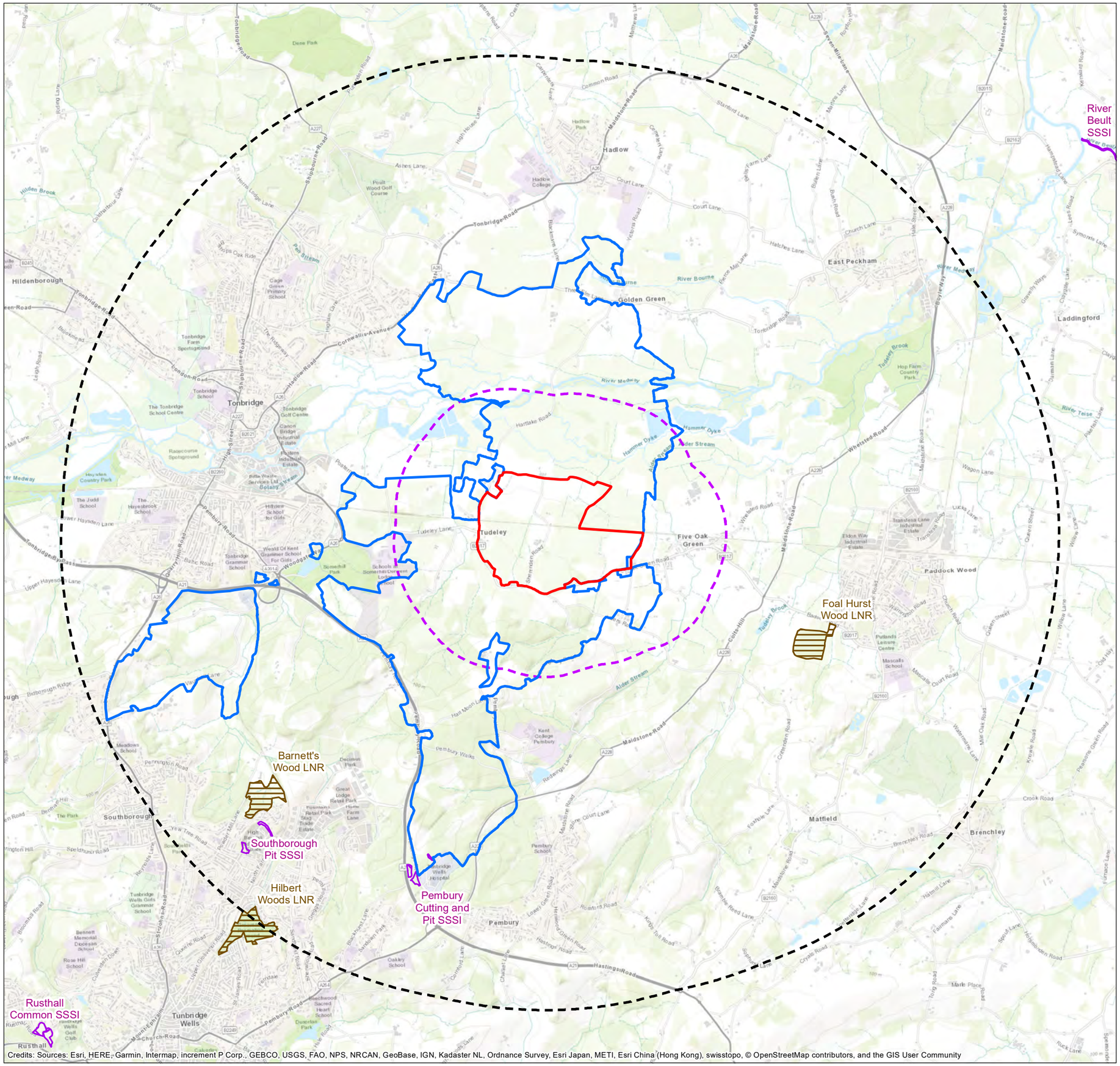
Land Use, Habitat Types, Vegetation Communities and Flora
Within the Site, habitat types and landscape features (such as field boundaries) have been described and mapped using a combination of information from desk-study work and within field observations.

Fauna
The potential of habitats and features to support protected or priority species, or species of principal importance for the purpose of conserving biodiversity, were recorded, as were any field signs encountered during the high-level site visit.

The records search, and other desk-based information – such as that provided on MAGIC, was also used to determine the likelihood of important species being present. However, given the visit was high-level, a detailed field assessment was not conducted.

Maps

Map 1	Site Location & Statutory Designated Sites
Map 2	Sites of Ecological Importance afforded protection by Planning Policy (including ancient woodland)
Map 3	Important Habitats Plan
Map 4	Important Ecological Features (Fauna)
Maps 5a-5c	Maternity and Hibernating Bat Roost Locations & associated CSZs.



MAP 1 Site Location & Statutory Protected Sites

KEY

- Site boundary
- Estate boundary
- 1km buffer of site boundary
- 5km buffer of site boundary

Legally Designated Sites

- Sites of Special Scientific Interest (SSSI)
- Local Nature Reserves (LNR)

Pembury Cutting and Pit SSSI and Southbrough SSSI are designated because of their geological importance.

SCALE: 1:45,000 at A3

0 500 1,000 1,500 2,000 Metres

N

Ecological Planning & Research

CLIENT: The Hadlow Estate

PROJECT: Tudeley Village Proposal

DATE: February 2019

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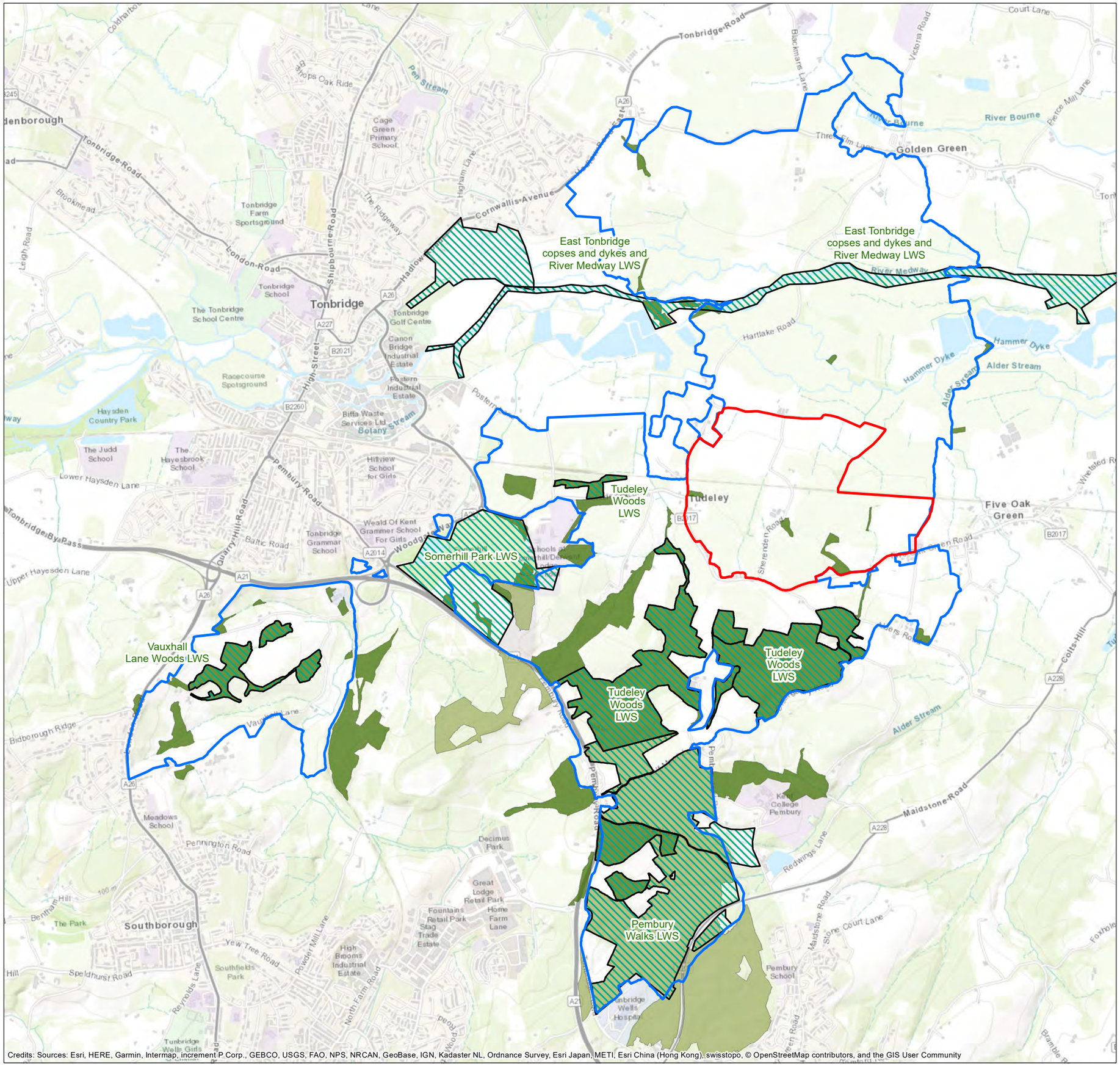

Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community

MAP 2 Sites of Ecological Importance Afforded Protection by Planning Policy (Including Ancient Woodland)

KEY

- Site boundary
- Estate boundary
- Local Wildlife Sites (LWS)

Natural England's Provisional Ancient Woodland Inventory

- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland

SCALE: 1:30,000 at A3

0 500 1,000 1,500 2,000 Metres

N

Ecological Planning & Research

CLIENT: The Hadlow Estate

PROJECT: Tudeley Village Proposal

DATE: February 2019

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MAP 3 Important Habitats Plan

KEY

Site boundary

(1) Woodland of potential ecological importance. (Further work required to confirm)

(2) Remnant field boundary habitats of potential ecological importance. Also, broad locations for targeted ancient & veteran tree surveys by an ecologist

Existing ponds that have been present since at least 1868

Other ponds

Traditional orchards (provisional)

Natural England's Provisional Ancient Woodland Inventory

Ancient & Semi-Natural Woodland

SCALE: 1:8,000 at A3

0 100 200 300 400 Metres

N

Ecological Planning & Research

CLIENT: The Hadlow Estate

PROJECT: Tudeley Village Proposal

DATE: February 2019

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P18/44

MAP 4 Important Ecological Features (Fauna)

KEY

Site boundary

Amphibians & Reptiles (Records at 1m, 10m & 100m resolution)

- Common Toad
- Grass Snake
- Great Crested Newt
- Slow-worm

Mammals (Records at 1m, 10m & 100m resolution)

- Badger
- Brown Hare
- European Otter
- Hazel Dormouse

100m grid square

SCALE: 1:12,750 at A3

0 100 200 300 400 Metres

N

Ecological Planning & Research

CLIENT: The Hadlow Estate

PROJECT: Tudeley Village Proposal

DATE: February 2019

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MAP 5a Bat Roosts

KEY

- Site boundary
- Estate boundary
- Brown Long-Eared bat
- Common Pipistrelle Bat
- Soprano Pipistrelle Bat
- Pipistrellus (45 or 55kHz) species
- Pipistrellus species

Record type

- Hibernating bat
- Maternity roost

Core Sustenance Zones (Only CSZ's that overlap the site boundary are shown)

- Long-Eared Bat Brown
- Common Pipistrelle Bat
- Soprano Pipistrelle Bat
- Pipistrellus (45 or 55kHz) species
- Pipistrellus species

SCALE: 1:75,000 at A3

0 1 2 3 4 5 Kilometres

N

Ecological Planning & Research

CLIENT: The Hadlow Estate

PROJECT: Tudeley Village Proposal

DATE: February 2019

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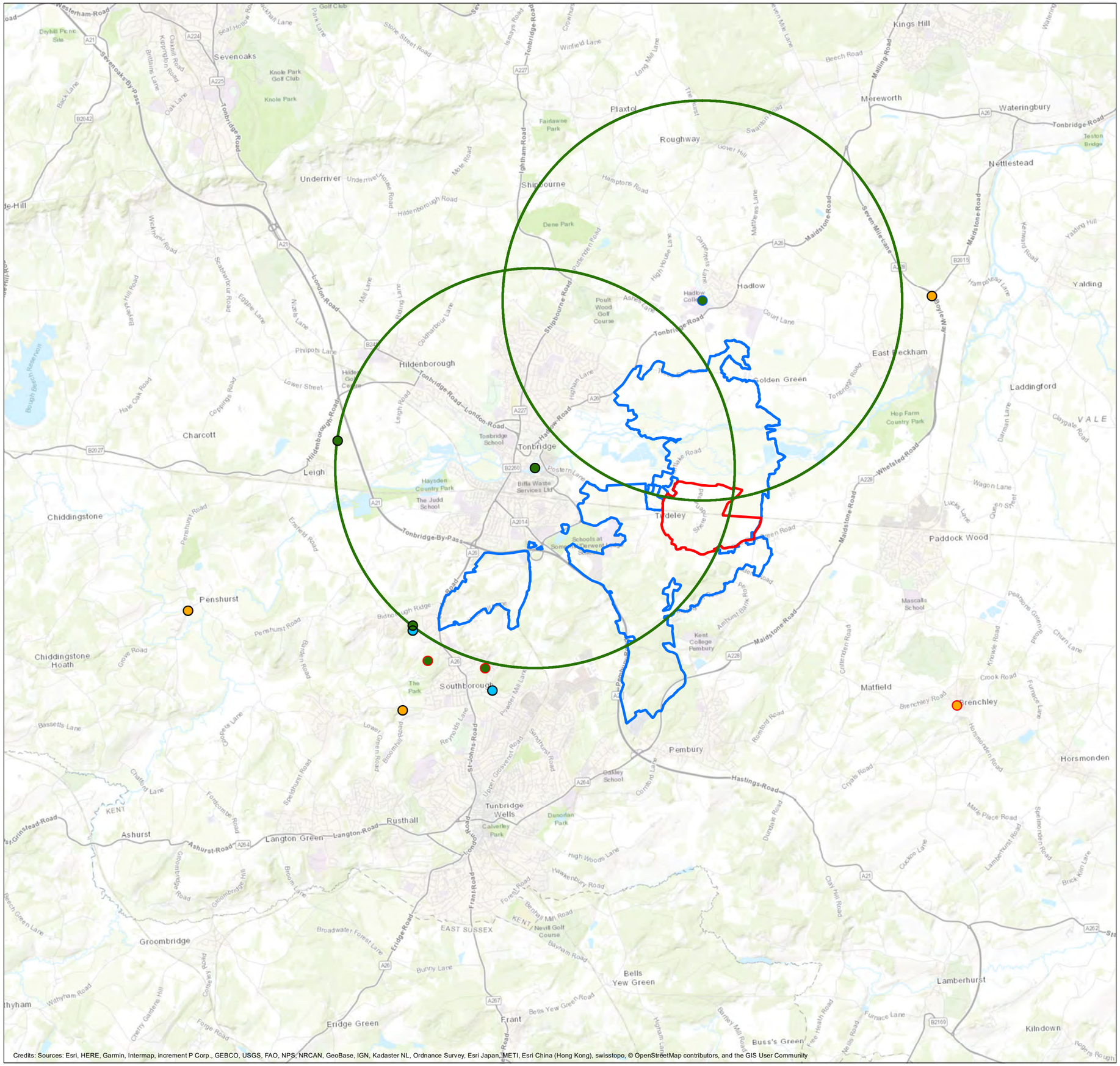

MAP 5b Bat Roosts

KEY

- Site boundary
- Estate boundary
- Leisler's Bat
- Noctule Bat
- Serotine Bat

Record type

- Hibernating bat
- Maternity roost
- Roost (unknown type)

Core Sustenance Zones (Only CSZ's that overlap the site boundary are shown)

- Noctule Bat

SCALE: 1:75,000 at A3

0 1 2 3 4 5 Kilometres

N

Ecological Planning & Research

CLIENT: The Hadlow Estate

PROJECT: Tudeley Village Proposal

DATE: February 2019

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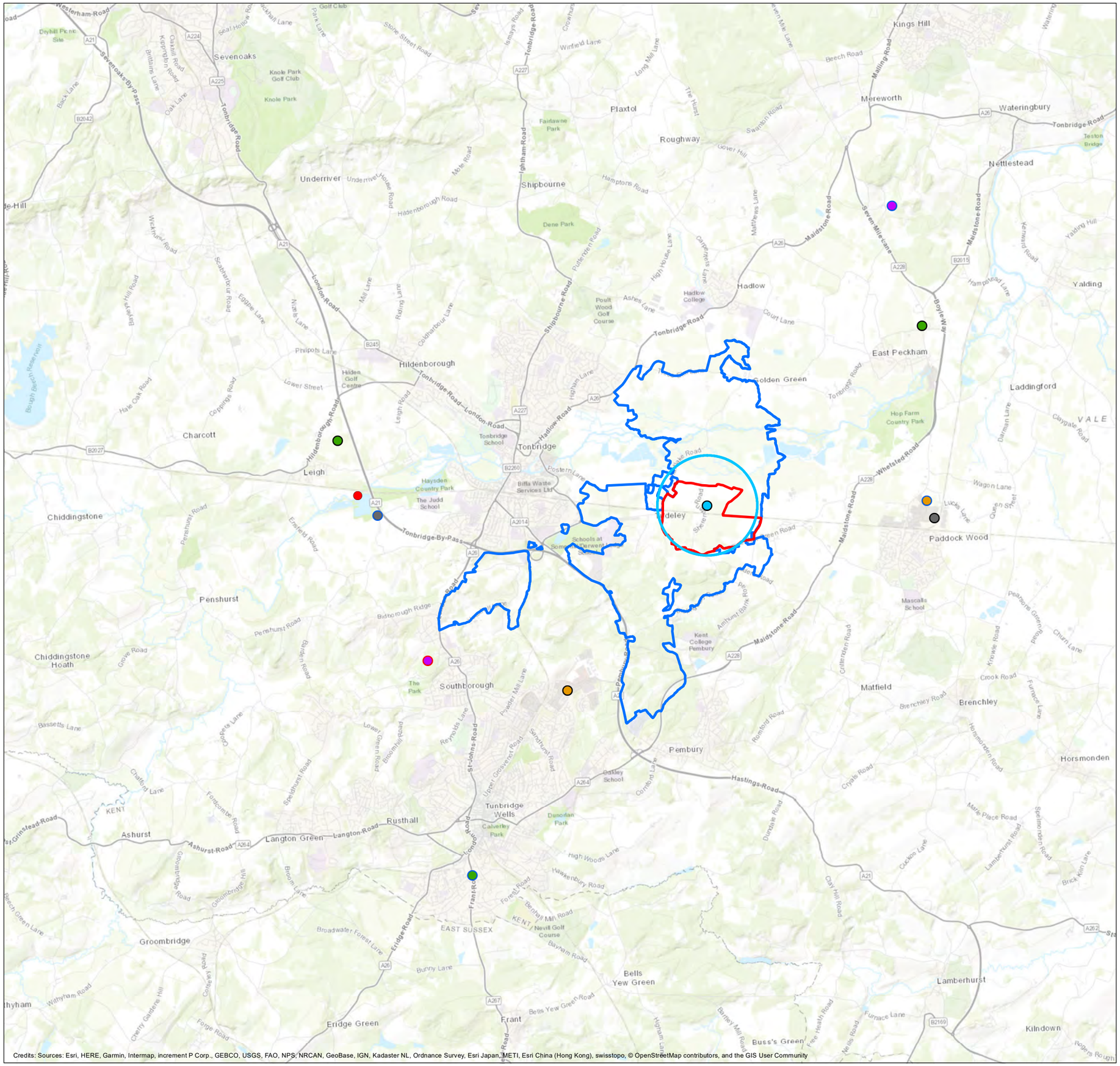

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MAP 5c Bat Roosts & Barbastelle Record

KEY

- Site boundary
- Estate boundary
- Barbastelle record

Roost records

- Daubenton's Bat
- Natterer's Bat
- Whiskered / Brandt's / Alcathoe Bat
- Whiskered / Brandt's Bat
- Whiskered Bat

Record type

- Hibernating bat
- Maternity roost
- Roost (unknown type)

Core Sustenance Zones (Only CSZ's that overlap the site boundary are shown)

- Whiskered / Brandt's / Alcathoe Bat

SCALE: 1:75,000 at A3

0 1 2 3 4 5 Kilometres

N

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