



Norwich Western Link

Environmental Statement

Chapter 10: Biodiversity

Appendix 10.2: Ecological Desk Study 2018 Part 1 of 2

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1 Introduction

1.1.1 WSP was commissioned by Norfolk County Council to complete an ecological desk study of an area to the west of Norwich, to inform options for a road known as the Norwich Western Link.

1.1.2 The following terms have been used with regards to the desk study and field survey work:

- Field Survey Area – An area defined to the west of Norwich.
- Desk Study Area – Search distance between 2km and 30km from the Field Survey Area, subject to the resources considered.

1.1.3 WSP was commissioned to collate baseline ecological data necessary to inform options for the Norwich Western Link. The desk study included:

- Collation of relevant existing biological records from third parties including the local biological records centre and relevant species recording groups;
- Collation and creation of plans showing both statutory and non-statutory designated sites and associated citations;
- Review of relevant policy documentations and extant permissions relevant to ecology and the Norwich Western Link; and

1.1.4 Identify requirements for further survey.

1.1.5 The results of the desk study and associated digitised plans are detailed in this report.

1.1.6 We have included a summary of key information shown in this document in an accessible format. However, some users may not be able to access all technical details. If you require this document in a more accessible format please contact norwichwesternlink@norfolk.gov.uk.



Norfolk County Council

NORWICH WESTERN LINK

Ecological Desk Study



Norfolk County **Council**

NORWICH WESTERN LINK

Ecological Desk Study

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EXECUTIVE SUMMARY

WSP was commissioned by Norfolk County Council to complete an ecological desk study of an area to the west of Norwich, to inform options for a road known as the Norwich Western Link.

The aim of this desk study was to act as an ecological appraisal in combination with an extended Phase 1 habitat survey (WSP, 2018) and to form an ecological baseline to identify potential constraints.

The desk study identified one site designated for barbastelle within 30km of the Field Survey Area. The River Wensum Special Area of Conservation (SAC) and Site of Special Scientific Importance (SSSI) is present within the Field Survey Area, with a number of other statutory and non-statutory protected sites present. There are numerous parcels of Ancient Woodland and Habitats of Principal Importance (HPIs) present within the Field Survey Area. The HPIs consist of coastal and floodplain grazing marsh, deciduous woodland, semi-improved grassland, lowland fens, lowland meadows and traditional orchards.

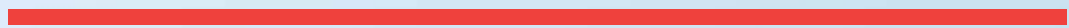
A large number of protected and notable species records were returned from Norfolk Biological Information Service (NBIS). Records within the Desk Study Area include barbastelle.

When a route is selected, further surveys are recommended for the following: great crested newt, bats, terrestrial invertebrates including Desmoulin's whorl snail, breeding birds, wintering birds, badger, otter, water vole, aquatic macroinvertebrates, fish, white-clawed crayfish, hedgerows, National Vegetation Classification (NVC), reptiles and River Habitat Survey/River Corridor Surveys.

Consultations with the Local Planning Authority and Natural England are recommended to determine the requirement and extent of these surveys.

1

INTRODUCTION



1 INTRODUCTION

1.1 PROJECT BACKGROUND

- 1.1.1. WSP was commissioned by Norfolk County Council to complete an ecological desk study of an area to the west of Norwich, to inform options for a road known as the Norwich Western Link.
- 1.1.2. The following terms have been used with regards to the desk study and field survey work:
- Field Survey Area – An area defined to the west of Norwich, as shown by the redline in Figure 1, Appendix A.
 - Desk Study Area – Search distance between 2km and 30km from the Field Survey Area, subject to the resources considered.

1.2 BRIEF AND OBJECTIVES

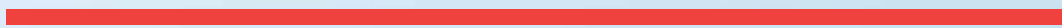
- 1.2.1. WSP was commissioned to collate baseline ecological data necessary to inform options for the Norwich Western Link. The desk study included:
- Collation of relevant existing biological records from third parties including the local biological records centre and relevant species recording groups;
 - Collation and creation of plans showing both statutory and non-statutory designated sites and associated citations;
 - Review of relevant policy documentations and extant permissions relevant to ecology and the Norwich Western Link; and
 - Identify requirements for further survey.
- 1.2.2. The results of the desk study and associated digitised plans are detailed in this report.

1.3 RELEVANT LEGISLATION AND POLICY

- 1.3.1. This report has been compiled with reference to the following relevant nature conservation legislation, planning policy and the UK Biodiversity Framework from which the protection of sites, habitats and species is derived in England. The context and applicability of each item is explained as appropriate in the relevant sections of the report and is summarised below.
- The Conservation of Habitats and Species Regulations 2017 (as amended);
 - Wildlife and Countryside Act 1981 (as amended);
 - The Natural Environmental and Rural Communities (NERC) Act 2006; and
 - National Planning Policy Framework (NPPF) (July 2018);
- 1.3.2. The NERC Act 2006 requires public bodies, including local authorities, 'to have regard to the conservation of biodiversity in England' when carrying out their normal functions. Section 41 requires the Secretary of State to publish a list of species and habitats of 'principal importance to biodiversity within England' was drawn up which acts as an aid to guide public bodies in implementing their duty. The UK Post-2010 Biodiversity Framework covers the period 2011 – 2020 and replaces the UK Biodiversity Action Plan (UKBAP) 1994 – 2010.
- 1.3.3. The NPPF relates to conserving and enhancing the natural environment, requires local authorities in England to take measures to:
- Protect and enhance sites of biodiversity;
 - Recognise the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services;
 - Maintain the character of the undeveloped coast;
 - Minimise impacts and provide net gains for biodiversity;
 - Prevent 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; and
 - Remediate and mitigate despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

2

METHODS



2 METHODS

2.1 DESK STUDY

- 2.1.1. An ecological desk study was completed during 2018 to collate existing biological records relevant to the Field Survey Area from the public domain and relevant third parties, with regard for current good practice guidance (CIEEM, 2017).
- 2.1.2. Potentially sensitive ecological receptors were identified within a search distance of between 2km and 30km from the Field Survey Area (Table1). Search distances were determined with regard to the following guidelines:
- Design Manual for Road and Bridges (DMRB); and
 - CIEEM Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017);
- 2.1.3. The following information was requested from Norfolk Biodiversity Information Service (NBIS) (with records provided since 1st January 2000):
- Natura 2000 and Ramsar designated sites within 30km of the Field Survey Area.
 - Statutory designated sites within 10km of the Field Survey Area.
 - Bat records within 5km of the Field Survey Area; and
 - Legally protected and notable species within 2km of the Field Survey Area.
- 2.1.4. Downloadable datasets freely available from Natural England were used with regards to European Statutory Designated Sites, UK statutory sites, Ancient Woodland and habitats of principal importance. Waterbodies were identified within the Field Survey Area using Ordnance Survey mapping.
- 2.1.5. The following reports have been consulted:
- Greena Ecological Consultancy (2013) Norwich Northern Distributor Road, Barbastelle radio-tracking 2013;
 - The Landscape Partnership (2018a) Western Link Road Route Options, Ecological Appraisal Report Summary for The Easton and Ringland Estates;
 - The Landscape Partnership (2018b) Western Link Road Route Options Ecological Appraisal Report for The Easton and Ringland Estates; and
 - Norfolk Local Sites Handbook – a guide to the County Wildlife Site (CWS) and County Geodiversity (CGS) systems in Norfolk.

Table 1 - Search distances and data sources

Potential Ecological Receptors	Search distance	Data source
European Designated Sites for bats	30km	Natural England Corporate datasets, citations and data held by the Joint Nature Conservation Committee (JNCC) and NBIS
European Designated Sites (SACs, Special Protection Areas (SPAs), Ramsar Sites (wetlands of international importance) and UK Statutory Designated Sites (SSSIs, National Nature Reserves, Local Nature Reserves (LNRs)	10km	Natural England, Joint Nature Conservation Committee (JNCC) and NBIS
Non-statutory Designated Sites – CWSs and Roadside Nature Reserves (RNRs)	2km	NBIS
Ancient Woodland	2km	Natural England
Habitats of Principal Importance (HPI)	2km	Natural England
Bat records	2km	NBIS
Protected and notable species records	2km	NBIS

2.1.6. All species information was reviewed considering records within the last ten years only (2007 onwards).

2.2 NOTES AND LIMITATIONS

2.2.1. Records held by local biological records centres are generally collected on a voluntary basis; therefore, the absence of records does not demonstrate the absence of species, it may simply indicate a gap in the recording coverage.

3

RESULTS



3 RESULTS

3.1 EUROPEAN STATUTORY DESIGNATED SITES FOR BATS WITHIN 30KM DESK STUDY AREA

3.1.1. One European site designated for bats was identified within 30km of the Field Survey Area, as described in Table 2.

Table 2 –SAC designated for bats within 30km of the Field Survey Area

Site name and designation	Description and designation
Paston Great Barn SAC	16 th Century thatched barn with associated outbuildings, designated for: Annex II species as a primary reason for selection 1308 Barbastelle <i>Barbastella barastellus</i> Only known example of a maternity colony of barbastelle in a building.

3.2 EUROPEAN AND RAMSAR STATUTORY DESIGNATED SITES

3.2.1. European and Ramsar sites were identified within 10km of the Field Survey Area. A description of each site and the reasons for its designation are provided in Tables 3 and 4. The locations of European protected sites and Ramsar sites are shown on Figure 1, Appendix C.

Table 3 – European designated sites within the Field Survey Area

Site name and designation	Description and designation
River Wensum SAC	Chalk-fed river, designated for: Annex I habitat as a primary reason for selection: 3260 Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation. The Wensum represents sub-type 1 in lowland eastern England Annex II species as a primary reason for selection 1092 White-clawed (or Atlantic stream) crayfish <i>Austropotamobius pallipes</i> Annex II species present as a qualifying feature 1016 Desmoulin’s whorl snail <i>Vertigo moulinsiana</i> 1096 Brook lamprey <i>Lampetra planeri</i> 1163 Bullhead <i>Cottus gobio</i>

Table 4 – European and Ramsar sites outside the Field Survey Area but within 10km

Site name and designation	Description and designation
Broadland Ramsar	Broadland is located within a large area of low-lying land in east Norfolk and northern Suffolk, including the lower valleys of the Waveney, Yare and Bure rivers and their tributaries. A large range of wetland habitats are now present, including open water, reedbeds, fen meadow and carr woodland. The following nine species of Red Data Book plants are found within the proposed Ramsar site: the stoneworts <i>Nitellopsis obtusa</i> , <i>Chara intermedia</i> , and <i>C. connivens</i> , the bryophyte <i>Ricciocarpus natans</i> , the moss <i>Cinclidium stygium</i> , the macrophytes <i>Najas marina</i> , <i>Liparis loeselii</i> , <i>Potamogeton acutifolius</i> and the fern <i>Dryopteris cristata</i> . Broadland’s rich invertebrate fauna includes 136 Red Data Book species, reflecting the quality and diversity of wetland habitats present. The site is particularly notable for its dragonfly fauna, including the Red Data Book <i>Aeshna isosceles</i> , and as the only location in

Site name and designation	Description and designation
	<p>Britain where the endemic race of the butterfly <i>Papilio machaon britannicus</i> breeds successfully. The site also supports internationally important numbers of the following species of wintering wildfowl (figures are five year peak means for the period 1987/88 to 1991/92) <i>Cygnus columbianus bewickii</i> (495); <i>Anas penelope</i> (8,966), <i>A. strepera</i> (486), and <i>A. clypeata</i> (675). Notable also are nationally important numbers of the following breeding birds: <i>Botaurus stellaris</i>, <i>Anas strepera</i>, <i>A. querquedula</i>, <i>A. clypeata</i>, <i>Aythya ferina</i>, <i>Circus aeruginosus</i>, <i>Locustella luscinioides</i>, <i>Cettia cetti</i> and <i>Panurus biarmicus</i>.</p>
The Broads SAC	<p>Annex I habitats as a primary reason for selection: 3140 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. 3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition – type vegetation 7140 Transition mires and quaking bogs 7210 Calcaerous fens with Cladium mariscus and species of the Caricion davallianae 7230 Alkaline fens 91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alno incanae, Salicion albae) Annex I habitats present as a qualifying feature: Molinia meadows on calcaereous, peary or clayey-silt-laden soils (Molinion caeruleae) Annex II species as a primary reason for selection: 1016 Desmoulin’s whorl snail <i>Vertigo moulinsiana</i> 1903 Fen orchid <i>Liparis loeselii</i> 4056 Ramshorn snail <i>Anisus vorticulus</i> Annex II species as a qualifying feature: Otter <i>Lutra lutra</i></p>
Norfolk Valley Fens	<p>Annex I habitat as a primary reason for selection: 7230 Alkaline Fens Annex I habitat as a qualifying feature: 4010 Northern Atlantic Wet Heaths with <i>Erica tetralix</i> 4030 European dry heaths 6210 Semi-natural dry grasslands and scrublands facies on calcareous substrates (Festuco-Brometalia) (important orchid sites) 6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) 7210 Calcareous fens with Cladium mariscus and species of the Caricion davallianae 91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Anion incanae, Salicion albae) Annex II species as a primary reason for selection: 1014 Narrow-mouthed whorl snail <i>Vertigo angustior</i> 1016 Desmoulin’s whorl snail <i>Vertigo moulinsiana</i></p>
Broadland SPA	<p>Broadland SPA is of European importance because: (a) It is used regularly by 1% or more of the GB population of a species listed on Annex 1 of the Birds Directive (79/409/EEC) in any season: Annex 1 species 5-yr peak mean from 1987/88-1991/2* 1996/1997 bittern <i>Botaurus stellaris</i> 2-3(10-15% GB)M - Bewick’s swan <i>Cygnus columbianus bewickii</i> 495(7.1% GB)I >600 8.6% GB)I whooper swan <i>Cygnus cygnus cygnus</i> 121(2% GB) I 100 (1.8% GB)I marsh harrier <i>Circus aeruginosus</i> 16(16% GB)F - hen harrier <i>Circus cyaneus</i> 22 (3% GB) - ruff <i>Philomachus pugnax</i> 96 (6.4% GB) - units of population size: M - booming males, F - breeding females, I - individual birds wintering. * Figures relate to the SPA boundary classified in 1994 (b) It is used regularly by 1 % or more of the</p>

Site name and designation	Description and designation
	biogeographic population of a regularly occurring migratory species (other than those listed on Annex 1) in any season: Non-Annex 1 migratory bird species 5-yr peak mean from 1987/88-1991/92* 5-yr peak mean from 1990/91-1995/96 wigeon <i>Anas penelope</i> 8,966(1.2% NW Europe)' 10,071 (1.34% o NW Europe)' gadwall <i>Anas strepera</i> 486 (4% NW Europe)' 240 (0.96% NW Europe)' shoveler <i>Anas clypeata</i> 675(1.7% NW Europe)'.

3.3 UK STATUTORY DESIGNATED SITES

3.3.1. SSSIs and LNRs were identified within 2km of the Field Survey Area. A description of each site and the reasons for its designation are shown in Tables 5 and 6. The locations of the SSSIs are shown on Figure 2, Appendix D.

Table 5 – UK statutory designated sites within the Field Survey Area

Site name and designation	Description and designation
River Wensum SSSI	Overlaps with River Wensum SAC (see Table 3). Notified for: Flowing waters - Type I: naturally eutrophic lowland rivers with a high base flow, Flowing waters - Type III: base-rich, low-energy lowland rivers and streams, generally with a stable flow regime, Population of RDB mollusc – Desmoulin’s whorl snail <i>Vertigo moulinsiana</i> , S25 - <i>Phragmites australis</i> - <i>Eupatorium cannabinum</i> tall-herb fen, S3 - <i>Carex paniculata</i> swamp, S4 - <i>Phragmites australis</i> swamp and reed-beds, S5 - <i>Glyceria maxima</i> swamp, S7 - <i>Carex acutiformis</i> swamp and white-clawed crayfish <i>Austropotamobius pallipes</i>
Hockering Wood SSSI	Notified for: Great crested newt <i>Triturus cristatus</i> , W10 - <i>Quercus robur</i> - <i>Pteridium aquilinum</i> - <i>Rubus fruticosus</i> woodland and W8 - <i>Fraxinus excelsior</i> - <i>Acer campestre</i> - <i>Mercurialis perennis</i> woodland
Bowthorpe Marsh LNR	A low-lying, undulating area of tall-herb fen and unimproved grassland adjacent to the River Yare. The drainage ditches support reed sweet-grass along with other aquatic species. There is a small seasonal pond.
Earlham Park Woods LNR	This site is also known as Violet Grove and the Heronry and includes a diverse range of habitat types including dense tall marsh, unimproved neutral grassland and woodland. There is also a pond which had silted up but some of which has been dredged creating open water. Species: Regenerating elm trees in woodland, range of woodland flora.

Table 6 – UK Statutory Sites outside the Field Survey Area but within 2km

Site name and designation	Description and designation
Alderford Common SSSI	Notified for: Assemblages of breeding birds - Mixed: Scrub, Woodland and MG5 - <i>Cynosurus cristatus</i> - <i>Centaurea nigra</i> grassland

Site name and designation	Description and designation
Swannington Upgate Common SSSI	<p>Notified for:</p> <p>Great crested newt <i>Triturus cristatus</i>, H8 - <i>Calluna vulgaris</i> - <i>Ulex gallii</i> heath, M22 - <i>Juncus subnodulosus</i> - <i>Cirsium palustre</i> fen meadow, M25 - <i>Molinia caerulea</i> - <i>Potentilla erecta</i> mire, M27 - <i>Filipendula ulmaria</i> - <i>Angelica sylvestris</i> mire and S7 - <i>Carex acutiformis</i> swamp</p>
Rosie Curston's Meadow, Mattishall SSSI	<p>Rosie Curston's Meadow is a small unimproved calcareous clay pasture, grazed by cattle, with some scattered scrub and surrounded by mature hedgerows, set in an area mostly under arable. The attractive herb-rich grassy sward is predominantly mesotrophic being developed on soils derived from the East Anglian boulder clay which are neutral to calcareous in character. The grassland is the meadow vetchling <i>Lathyrus pratensis</i> variant of the crested dog's-tail <i>Cynosurus cristatus</i> -- knapweed <i>Centaurea nigra</i> community.</p>
Whitwell Common SSSI	<p>Whitwell Common lies in the valley of a tributary of the River Wensum and supports a wide range of wetland plant communities characteristic of peat-based soils. Calcareous flushes are present in low-lying hollows created by past peat cutting and a variety of interesting plants are associated with this uncommon habitat type. Wet valley alder wood, fen communities and unimproved neutral grassland are also represented on the site. The calcareous flushes are of the type dominated by black bog-rush <i>Schoenus nigricans</i>, blunt-flowered rush <i>Juncus subnodulosus</i>, bryophytes and other low-growing species. The water-table is high throughout the year and plants of interest include common spotted orchid <i>Dactylorhiza fuchsii</i>, southern marsh orchid <i>Dactylorhiza praetermissa</i>, twayblade <i>Listera ovata</i>, marsh valerian <i>Valeriana dioica</i>, lesser spearwort <i>Ranunculus flammula</i> and ragged robin <i>Lychnis flos-cuculi</i>.</p>
Mattishall Moor SSSI	<p>Mattishall Moor is an area of species-rich calcareous valley fen and marshy grassland, in mid-Norfolk on the southern slopes of the Tud valley. The site, together with 14 other SSSIs in Norfolk, forms one of the main geographical distributions of the internationally important <i>Schoenus nigricans</i> - <i>Juncus subnodulosus</i> community. Nationally, the community is almost entirely restricted to East Anglia and North Wales. Fens of this type are now extremely scarce in the cultivated lowlands.</p>
Sweetbriar Road Meadows, Norwich SSSI	<p>This site consists of a series of unimproved wet meadows with permanent waterlogging in the Wensum Valley close to Norwich. It is considered the best remaining example of a type of wetland habitat which at one time was more widely occurring in the river valleys of east Norfolk but which has been lost or progressively altered in post-war years due to drainage and agricultural improvements. It is particularly unusual for a site of this quality and size to remain within an urban area and still be subject to regular winter flooding. Three principal grassland communities are present. Damp neutral grassland occurs on the higher ground of the valley side. This is generally species-rich and the dominant grasses are Yorkshire fog <i>Holcus lanatus</i>, meadow fescue <i>Festuca pratensis</i>, tufted hair grass <i>Deschampsia cespitosa</i> and sweet vernal grass <i>Anthoxanthum odoratum</i>. Herbs present within the sward include yellow rattle <i>Rhinanthus minor</i>, ragged Robin, cuckoo flower <i>Cardamine pratensis</i> and southern marsh orchid.</p>
Eaton Chalk Pit SSSI	<p>This site consists of a series of abandoned chalk mines that were probably excavated in the early part of the nineteenth century. The undisturbed tunnels are now used by various species of bat which hibernate underground during the winter months. The bats have been closely monitored for many years and the site forms an important research site for longterm studies in bat ecology. Nationally, bat populations have shown severe declines in recent years and are given special protection under the 1981 Wildlife and Countryside Act. The tunnels are used</p>

Site name and designation	Description and designation
	principally by Daubenton's bat <i>Myotis daubentoni</i> , Natterer's bat <i>Myotis nattereri</i> and brown long-eared bat <i>Plecotus auritus</i> . Up to 40 bats use the site with peak numbers occurring in January.
Wensum Valley (Mile Cross Marsh and Sycamore Crescent) LNR	Mile Cross Marsh is adjacent to Sweet Briar marsh, which is a SSSI. The marsh consists of an area of fen and an area of damp grassland. A number of years ago a local resident dug a pond and this is used in spring by breeding frogs. Species of interest: Toads and water voles were recorded in the past, orchids. Sycamore Crescent is a long narrow plantation of mature woodland adjacent to the River Wensum. The canopy is predominantly beech and oak. The under-storey contains elm and sycamore. Species: Woodland flora.

3.4 NON-STATUTORY DESIGNATED SITES

3.4.1. Non-statutory Designated Sites, consisting of CWSs and RNRs, were identified within the Field Survey Area and to a distance of 2km. A description of each site and the reasons for its designation are provided in Tables 7 and 8. The following further sites have been proposed as CWSs by The Landscape Partnership (2018).

- River Wensum Pastures- Ringland Estate
- Primrose Grove
- Gravelpit Plantation and Church Hill
- Dryhill Plantation
- Ave's Gap

3.4.2. The locations of the designated non-statutory sites, and those proposed in 2018 to be designated are shown in Figure 3, Appendix E.

Table 7 – Non-statutory designated sites within the Field Survey Area

Site name and designation	Description and designation
Lake adjacent to Concrete Plant CWS (1346)	A large water-filled gravel pit with woodland around its margins. The lake contains stands of common reed <i>Phragmites australis</i> and reed-mace <i>Typha latifolia</i> in shallow areas. The banks are largely wooded with alder <i>Alnus glutinosa</i> and willow <i>Salix</i> spp.
Lenwade Pits (East) CWS (1349)	This site is a complex of gravel pits with mature varied woodland, with several pools, bordered to the south by a disused railway line and to the north by the River Wensum. The woodland is dominated by alder, with oak <i>Quercus robur</i> , ash <i>Fraxinus excelsior</i> , willow and grey willow <i>Salix cinerea</i> forming a dense canopy.
Lenwade Pits (West) CWS (1350)	This site is a complex of disused gravel pits, woodland and wet grassland. The River Wensum lies to the east, a disused railway line to the north. There are several footpaths across the site. The pools contain yellow water-lily <i>Nuphar lutea</i> and water forget-me-not <i>Myosotis scorpioides</i> and are fringed by reed grass, reed canary grass <i>Phalaris arundinacea</i> , bramble <i>Rubus fruticosus</i> , grey willow and oat-grass <i>Avenula</i> spp. One pond is surrounded by purple-loosestrife <i>Lythrum salicaria</i> .
The Heronry and Violet Grove CWS (1446)	This site includes a diverse range of habitat types including dense tall marsh, unimproved and semi-improved neutral grassland. There are also various woodland types, mainly neutral and dominated by oak and ash which have dense shrub layers. The area also contains the site of a pond which has silted up and dried out as swamp.
East Hills CWS (242)	This is an area of woodland on steep and undulating north-facing slopes adjacent to the valley of the River Tud. The canopy is generally closed though there are

Site name and designation	Description and designation
	frequent small clearings and the trees are largely mature. Sycamore <i>Acer pseudoplatanus</i> and sweet chestnut <i>Castanea sativa</i> are the commonest species whilst beech <i>Fagus sylvatica</i> , oak, ash and hornbeam <i>Carpinus betulus</i> are all fairly frequent.
Land South of River Tud CWS (243)	This is an area of semi-improved grassland adjacent the River Tud. The north of the site contains several damp hollows. Where dry, sward is dominated by grasses such as meadow-grass <i>Poa</i> sp., false oat-grass <i>Arrhenatherum elatius</i> and cock's-foot <i>Dactylis glomerata</i> with fescues <i>Festuca</i> spp. and Yorkshire fog occurring less frequently.
Land South of River Tud CWS (244)	This site slopes gently up away from the River Tud. Closest to the river is wet alder woodland which grades gently into grassland. The grassland is rather rank toward the east but the western end appears mown. There is a sizeable pond within the wood.
Red Bridge CWS (246)	This site is situated to the north of the River Tud and has developed over old mineral workings. It consists of a mosaic of habitats including fen, carr woodland, scrub and several shallow ponds. There is open access to the site and it is well used by local people for walking with a network of paths. The majority of the site is an acid woodland growing over sandy soils. The canopy is dominated by birch <i>Betula pendula</i> with occasional rowan <i>Sorbus aucuparia</i> and over-mature oak. The ground flora is dominated by bracken <i>Pteridium aquilinum</i> .
Wensum Meadow CWS (251)	This is a small horse paddock surrounded on three sides by the Wensum SSSI. It is bordered by fine old hedgerows with oak and hawthorn <i>Crataegus monogyna</i> .
Low Road Meadow CWS (255)	This is a species-rich meadow grazed by horses and crossed by several deep, clean dykes. The ground is slightly undulating which gives rise to both wet and dry areas. The sward contains abundant Yorkshire fog, meadow-grass, tufted hair-grass and sweet vernal-grass.
Canham's Hill CWS (1335)	Canham's Hill is an area of rough unmanaged ground, a mixture of self-seeded mature woodland, some bracken and a small open area of unimproved neutral grassland. The south-east end has been extensively used for dumping rubble and earth.
Drayton Wood CWS (2022)	Mixed, semi-natural woodland situated on the parish boundary between Drayton and Hellesdon. It is a proposed Local Nature Reserve owned by Norwich City Council. There is open access, with an extensive network of informal footpaths throughout. A surfaced footpath leads from Drayton High Road to the residential dwelling at the rear of the wood. There has been little recent management intervention and the wood is predominantly high forest.
Wensum Mount Farm CWS (2106)	Low-lying river valley floodplain, wet grassland and fen, adjacent to the River Wensum SSSI and cSAC. The site is predominantly species-rich to moderately species-rich marshy grassland with impeded drainage over peaty soils, divided into fenced compartments, with two small patches of alder woodland adjacent to the river and scattered alder, white willow <i>Salix alba</i> , grey willow and hybrid black poplar <i>Populus x canadensis</i> .
Marlpit Paddocks CWS (1452)	Horse grazed pasture beside the River Wensum. The site is divided by wet ditches and the notable plant species are between or on the sides of these. The eastern and westernmost areas are drier. The site is bordered by old dense hedges to north and south with pollarded willows to the east.
Hellesdon Mill Meadow CWS (1454)	This site comprises marshy riverside grassland with wet drainage ditches, predominantly grazed by horses with some rough patches and scrub. The ditches contain typical vegetation of reed canary grass, lesser pond sedge <i>Carex</i>

Site name and designation	Description and designation
	<i>acutiformis</i> , brown sedge <i>Carex disticha</i> and common reed, together with ragged robin, common marsh bedstraw <i>Galium palustre</i> and blue water-speedwell <i>Veronica anagallis-aquatica</i> .
Earlham and Colney Marshes CWS (1451)	An area of grazed meadowland on both sides of the River Yare. There is a wide assemblage of emergent plants along the river bank including purple loosestrife, water mint <i>Mentha aquatica</i> , water forget-me-not, reed canary grass, common reed, reed sweet grass <i>Glyceria maxima</i> , celery-leaved buttercup <i>Ranunculus scleratus</i> , branched bur reed <i>Sparganium erectum</i> , reedmace, blue water-speedwell, brooklime <i>Veronica beccabunga</i> and marsh speedwell <i>Veronica scutellata</i> .
Bowthorpe Marsh CWS (2012)	Managed by Norwich City Council, this site is predominantly marshy grassland, with the River Yare forming the boundary to the east. To the north and south of the site there are similar habitats. The western edge is bounded by a strip of scrub which is relatively wide in places. To the west of this is a road and a housing development.
UEA Marsh CWS (1447)	This site lies within the floodplain of the River Yare. The western part comprises a dense species-poor neglected marsh of tall vegetation fringed on one side by grey willow-dominated carr. The site extends eastwards to include the area between the river and the UEA Broad. The western marsh comprises at its northern end fen dominated by common reed. Near to the road it is becoming encroached by willows and hawthorn. Further south the vegetation becomes dense species-poor marshy grassland which is tall and rank.
UEA Butterfly Meadow CWS (1448)	The site comprises scattered neutral scrub underlain by grassland. It is being successfully managed as a butterfly breeding area. Also included within the site is a small area of fairly poor quality woodland.
UEA Broad CWS (1449)	A large mesotrophic lake with limited aquatic vegetation but which has a moderately species-rich marginal vegetation. It is partly fringed by scattered trees and shrub such as willow and alder.
Bawburgh/Colney Gravel Pits CWS (2350)	This site consists of a large area of flooded sand and gravel pits surrounded by unimproved neutral to acid grassland, scrub and woodland. The lakes are large but support abundant Canadian waterweed <i>Elodea canadensis</i> and yellow water-lily. The banks slope gently and support a well developed marginal vegetation of reed, reedmace, reed sweet-grass, water mint, great willowherb <i>Epilobium hirsutum</i> , gipsywort <i>Lycopus europaeus</i> , hemp agrimony <i>Eupatorium cannabinum</i> amongst others.
Pasture at Easton College CWS (2174)	This is a large area of watermeadows with wet ditches lying north of the River Yare, between the river and the road from Bawburgh to Marlingford. The site is owned by Easton College and no artificial fertilisers or pesticides have been applied since 1993; it has been in an ESA scheme since 1998. The soils are dark and silty. The site varies though is generally damp or wet. The two westernmost fifths of the site are the most botanically diverse.
River Yare at Marlingford CWS (231)	This site extends from just west of Bawburgh Road to the Bawburgh parish boundary. It is listed for its species-rich marginal and riverine flora, presence of 10 species of fish including eel, and relatively natural physical features.
Algasthorpe Marshes CWS (2288)	The site consists of three separate parcels of grassland adjacent to the River Yare either side of a central north-south track. These comprise grazing marsh and semi-improved neutral grassland crossed by wet ditches, some of which are permanently wet and spring fed.

Site name and designation	Description and designation
Bowthorpe Riverside (extension) CWS (1450)	Bowthorpe Riverside is situated to the west of Norwich and features as one of a network of County Wildlife Sites located along the River Yare. The site is divided into two areas, separated by a piece of land that is outside of the CWS boundary. The site is located on the eastern boundary of the river Yare, with Bawburgh Gravel Pits a fishery and County Wildlife Site to the west. Recently there has been extensive housing built to the east of the site.
River Yare (west and east), Bowthorpe CWS (240)	Length 2.9km This site extends from the Bowthorpe Southern Park car park along the river to the B1108 Earlham Road. The river meanders through grazing marsh for most of the stretch with a small section of trees and shrub towards the eastern end and woodland towards the west.
Twenty Acre and Bunkers Wood CWS (2013)	An area of mainly high forest broadleaf plantation enclosed on all but the western side by housing estates, and divided into a number of separate blocks by roads. There is also an area of coppice with standards woodland adjacent to Bunkers Hill on the western arm of the woodland.
Long Dale CWS (247)	Long Dale is the site of old gravel pits and now supports young woodland on a light acidic soil. The site is unmanaged and excavated by rabbits where sandy.
Lord's Hill and Easton Reeds and Blackhill Wood CWS (257)	This is a diverse area in three parts, principally woodland, situated on light acid soil. There has been some localised planting of broad-leaved and coniferous trees. The woodland to the south-west is dominated by oak with patches of birch, rowan, sycamore and, towards the southern boundary, Lombardy poplar <i>Populus nigra 'italica'</i> and beech.
Black Park and The Thicket CWS (1395)	Large area of oak dominated acid woodland types, some of which have frequent hazel <i>Corylus avellana</i> coppice or intermixed Scots pine <i>Pinus sylvestris</i> . The ground flora is moderately poor over most of the woodland being dominated by bracken with some richer areas.
Broom and Spring Hills CWS (1341)	An area of semi-natural deciduous woodland which is fairly acidic in character and dominated by oak and sycamore. The ground flora is poor over much of the wood and only moderately species-rich in parts.
Attlebridge Hills CWS (1343)	This site is a varied structure, broad-leaved semi-natural woodland. The canopy is dominated by mature oak, sycamore, sweet chestnut with extensive areas of mixed coppice of hazel, sycamore and sweet chestnut.
Bush Meadow Plantation CWS (1347)	This site is a mature semi-natural woodland and a small shaded pond. The site is south of Alderford Common and near to the Marriot's Way. The woodland is predominantly oak and some field maple <i>Acer campestre</i> some of which are coppiced along with hazel and occasional spindle <i>Euonymus europaeus</i> .
Walsingham Plantation CWS (1351)	This site is a broad-leaved semi-natural woodland adjacent to the A1067. The canopy is predominantly oak with silver birch, beech, and sycamore. The canopy is high and broken in places.
Wensum Pastures at Morton Hall CWS (2070)	A moderately large, open area of predominately improved cattle-grazed pasture adjacent to the River Wensum SSSI, crossed by a network of drains supporting a species-rich flora associated with aquatic habitats. The site lies within the Broads ESA and constitutes part of the Morton Estate.
Triumph and Foxburrow Plantations CWS (1344)	This site is a mixed broad-leaved woodland with rides. The site is bordered by arable land to the east and west and a tip to the south. A pheasant track runs along the edge of the wood in parts.
Taverham Mill CWS (256)	This site is situated to the south of the River Wensum and consists of a fishing lake surrounded by marshy and neutral grassland and a mixture of planted and semi-natural woodland over an acid soil. The lake supports aquatic vegetation with

Site name and designation	Description and designation
	abundant fringed water-lily <i>Nymphoides peltata</i> which is scarce in Norfolk, white water-lily <i>Nymphaea alba</i> and rigid hornwort <i>Ceratophyllum demersum</i> .
Ringland Pits CWS (1339)	This site is a flooded disused gravel workings adjacent to the River Wensum, which is now mostly oak and birch woodland with some damp grassland and a small amount of acid grassland. Apart from the many small and large lakes, there are numerous small water-filled hollows within the woods.
Blyth's Wood CWS (2112)	This is a broad-leaved, semi-natural woodland, situated within the floodplain of the River Wensum, to the west of Norwich. The woodland is structurally diverse, with wet and dry areas, open glades and clearings.
Costessey Pits (East) CWS (253)	This is a complex mosaic of grassland and woodland centred on old gravel diggings which are now used extensively for water-skiing and angling. The lakes are connected by dykes. The lakes support little aquatic vegetation except for fool's water-cress <i>Apium nodiflorum</i> and water-plantain <i>Alisma plantago-aquatica</i> .
Yare Valley (Bawburgh) CWS (239)	This site consists of a series of fields of tall vegetation with associated scrub. Within the fen area is a small block of woodland. The site is crossed by numerous dykes which support diverse macrophytes.
Yare Valley (Colton) CWS (227)	This site lies to the north of the River Yare and consists largely of wet plantation woodland with an area of fen and marshy grassland towards the east. A sizeable area adjacent the river has been planted with game crops. Most of the woodland has a canopy of mature poplar <i>Populus</i> sp. although to the west there is abundant Scots pine.
Yare Valley (Marlingford Hall) CWS (229)	This site comprises woodland, marshy grassland and fen either side of the R.Yare as it forms a large meander to the south of Marlingford Hall. The marshy grassland is largely neutral with either impeded drainage or is subject to flooding.
Old Hall Meadow CWS (232)	This site consists of a series of small semi-improved fields with associated ponds and small blocks of scrub and trees. The site is well sheep- grazed and contains orchids <i>Dactylorhiza</i> sp. The sward is a mixture of common bent <i>Agrostis capillaris</i> , red fescue <i>Festuca rubra</i> , rye-grass <i>Lolium perenne</i> and Yorkshire fog.
Land South of Cadders's Hill CWS (2065)	Grassland and encroaching scrub on a small sloping site, enclosed by tall unmanaged hedgerows. A green lane, which is a public footpath, runs adjacent to the site's western boundary. The site slopes from east to west towards a small stream which flows along the western boundary into a small pond to the north.
Lyng Easthaugh Meadows CWS (2096)	Unimproved, low-lying marshy grassland, with patches of river valley fen and broadleaved, semi-natural woodland within the Wensum Valley. Marshy grassland with scattered damp hollows and drier patches of neutral grassland divided by lateral ditches and an IDB drain running across the centre of the site, forming part of the southern boundary.
Drayton Drewray CWS (2268)	This area of registered common land (CLU 328) is exceptional diverse, with extensive broadleaved woodland, both wet and dry, some coniferous and mixed wood and a central open area of acid grassland, with some marshy grassland, fen meadow and relict heath. The soils are mainly acidic, with some peaty deposits on the eastern side.
Land adjoining River Tud CWS (2128)	The site lies directly south of the River Tud at Lower Easton, and consists of rough pasture, and a large area of wet meadow overgrown with greater pond sedge. Several drainage ditches traverse the site, and these hold the main botanical interest.
Snakes Hill CWS (248)	This is an area of quite recent semi-natural woodland which runs along the top and sides of a steep sandy ridge. The wood contains a diversity of trees and a diverse

Site name and designation	Description and designation
	ground flora. The canopy contains mature to over-mature beech, hornbeam and oak with much younger birch, rowan and sycamore.
Brickfield Farm CWS (252)	This is an area of neutral grassland lying on gently sloping ground. Slight undulations produce locally acid conditions. The grassland has a sward dominated by bent <i>Agrostis</i> sp., cock's-foot and crested dog's-tail. Herbs are abundant and include ribwort plantain <i>Plantago lanceolata</i> , vetch <i>Vicia</i> sp., yarrow <i>Achillea millefolium</i> , dock <i>Rumex</i> sp., nettle <i>Urtica dioica</i> and ragwort <i>Senecio jacobaea</i> .
Ringland Hills CWS (1336)	This site is a broad leaved semi-natural scrub woodland with patches of acid grassland. There is a steep gradient down to the River Wensum. Hedgerows mark the boundaries with arable land occurring to the north and south-west.
Church Hill Common CWS (1340)	The majority of the site is dominated by virtually continuous dense bracken with scattered to densely scattered scrub and young trees. Species include field maple, sweet chestnut, gorse <i>Ulex europaeus</i> and dog rose. Bramble is also present.
Holly Woods CWS (2103)	Two areas of semi-natural, broad-leaved woodland, separated by a third area of semi-mature conifer plantation with occasional broad-leaved species in the canopy.
Jennis' Wood CWS (2113)	This is a small area of semi-natural, Ancient Woodland situated on the Ringland Estate, west of Norwich. The wood has been partly replanted in the past with conifer and both native and ornamental broad-leaved species. Most conifers have now been removed, leaving a large open area in the centre of the wood.
Land South of Blyth's Wood CWS (2115)	These meadows lie on the north bank of the River Wensum, and are surrounded on the north and west by woodland, with a further small area of woodland lying adjacent to part of the south boundary. The site is divided by a ditch running from west to east.
Chippings Green Farm CWS (2030)	Unimproved, marshy grassland with impeded drainage which grades into drier, neutral grassland which is mainly semi-improved. It is privately-owned and managed as pasture which is cattle-grazed on a rotational system.
Gravel Pits, E Tuddenham CWS (659)	This site consists of an open area of mesotrophic water used as a fishing lake and stocked with trout, created following gravel extraction. It is surrounded by neutral grassland and some trees. Larger areas of trees have been planted in the north-west and tall poplars with bramble grow in the north-east. The substrate varies between sand and loam.
Fen West of East Tuddenham CWS (660)	This site comprises low lying marshy grasslands, exhibiting various degrees of management and species diversity. A stream flows through the middle of the site and there is a small man-made pond. The majority of the site is tall dense vegetation which is mostly dominated by meadowsweet <i>Filipendula ulmaria</i> with frequent great willowherb.
Park Grove CWS (2033)	Ancient, broad-leaved semi-natural woodland situated on the parish boundary. It is under private ownership and is currently managed as high forest. Recent management has entailed thinning, low-density underplanting and limited clear-felling with replanting, using both native broad-leaved and exotic coniferous species.
Mouse Wood CWS (2050)	An Ancient, replanted Woodland which is now predominantly a commercially-managed conifer plantation surrounded mainly by arable farmland. Privately owned. A public footpath runs along the northern boundary, leading into a narrow hedged lane.

Site name and designation	Description and designation
Old Covert, Wood Lane CWS (2109)	A coppice with standards woodland that is not listed on the Ancient Woodland Inventory, although it may have once been part of a larger, Ancient Woodland. The wood is managed as active coppice and for shooting.
Fen Plantation CWS (2117)	This site is situated on the south bank of the River Tud, and consists of dry to damp semi-natural woodland in the west, becoming increasingly wet towards the eastern end.
Hall Hills/Ringland Covert CWS (2105)	A large woodland, listed as Ancient Woodland and lying between the river valleys of the Tud and the Wensum. The woodland is composed largely of standards, with small areas of coppice.
Land adjoining Foxburrow Plantation CWS (2116)	This site forms part of a larger area known collectively as Foxburrow Plantation and The Waterfence. It consists of an extensive area of wet, species-rich grassland situated in the bottom of a spring-fed valley.
River Tud at Easton and Honingham CWS (250)	This site meets the following CWS criteria: * Species-rich aquatic, marginal and emergent riverine flora; * Otter and water vole recorded; * Presence of natural physical features. This site originally extended from Ringland Road in the west to the parish boundary in Bog wood in the east; in 2017, the section west of Church Farm to the A47 at Honingham was added, along with a section from the district boundary in the west to Bog Wood in the east; there is a small break at the location of privately owned property on Ringland Road.
Marriott's Way CWS (2176)	Marriott's Way follows a disused railway line which closed finally in 1985, and is now used by walkers, cyclists and horse-riders. A firm track has been laid along its whole length.
Pits near Lyng Easthaugh CWS (677)	A large site which includes large eutrophic lakes surrounded by neutral marshy grassland and areas of woodland which provide a valuable wetland site for birds. The lakes are fringed by common reed, reedmace, hard rush <i>Juncus inflexus</i> and soft rush <i>Juncus effusus</i> .
Grassland adj. River Wensum CWS (2002)	This site is a semi-improved, neutral grassland with impeded drainage lying next to the River Wensum SSSI. The grassland includes crested dog's tail, cock's-foot and Yorkshire fog, with patches of thistles <i>Cirsium</i> spp. and dock.
Harman's Grove and adjoining grassland CWS (2104)	A semi-natural Ancient Woodland managed as coppice with standards and for pheasant shooting. A large pheasant release pen is present in the centre of the woodland.
Sparham Pools CWS (673)	This site is a disused gravel pit containing several small scrub-covered islands. The site is leased to Norfolk Wildlife Trust and managed as a nature reserve.
Meadow adjacent to Sandy Lane CWS (1322)	Obviously unimproved meadow rich in herbs although rather heavily grazed. A stream runs alongside before joining the River Wensum. Grass and soft rush are dominant with widespread buttercups <i>Ranunculus</i> spp, plantains <i>Plantago</i> spp. and dock.
Great Witchingham Common CWS (1323)	This site comprises a number of disused gravel pits with a variety of habitats including open water, tall herb/grassland and wet woodland, predominately alder.
Weston Meadow CWS (1345)	This site is an area of lowland marshy grassland divided by a ditch. North of the ditch is typical tall herb with sedges <i>Carex</i> spp., nettle, great willowherb and meadowsweet and marsh thistle <i>Cirsium palustre</i> .
Church Meadow, Alder Carr, Three Corner Thicket and Nursery Plantation CWS (2296)	The site comprises mainly cattle grazed, unimproved wet pasture, divided by spring-fed ditches (Church Marsh), with areas of wet and dry woodland (Alder Carr, Nursery Plantation and 3-Corner Thicket). To the north, there is an area of former lake, which has reverted to wetland, including a large reedbed. The River Tud flows west to east through the middle of the site.

Site name and designation	Description and designation
Long Dell and Westlodge Hills CWS (2297)	This site comprises a semi-natural woodland of mainly oak, beech and ash, with holly <i>Ilex aquifolium</i> and rowan.
Watton Road RNR (3) TG181079	Designated species: hoary mullein <i>Verbascum pulverentum</i> .
Fakenham Road RNR (59) TG143155	Designated species: hoary mullein
Drayton High Road RNR (60) TG193128	Designated species: sandy stilt puffball <i>Battarrea phalloides</i> (Red Data)
RNR (65) TG124141	Designated species: mossy stonecrop <i>Sedum acre</i>
Cherry Tree Lane RNR (107) TG068172	Designated species: sandy stilt puffball

Table 8 – Non-statutory designated sites outside the Field Survey Area but within 2km

Site name and designation	Description and designation
Spixworth Bridge Meadows CWS (2205)	This is a large area of mixed grassland, some very species-rich, extending west of Spixworth Bridge by a busy minor road. The land is in a valley with Spixworth Beck running through. There are many wet, damp and dry ditches. The land has multiple-ownership and so management differs through the site, though much is grazed. CWS 1396 lies east of Spixworth Bridge. An area of alder carr is present on the northern edge of the site.
Train Wood CWS (1467)	An urban site on the northwestern fringe of Norwich city centre, adjacent to the River Wensum, where secondary habitats have developed on the former city railway station site north of Barn Road. The site lies on the west river bank and is surrounded by light industrial and commercial land-use.
Sparham Wood CWS (2129)	This is a small, semi-natural woodland that was clear-felled during the First World War and is now dominated by tall ash with field maple) frequent at the woodland edges. Other canopy species include small-leaved lime <i>Tilia cordata</i> , oak and wych elm <i>Ulmus glabra</i> .
Softley Drive Meadow CWS (2217)	This is a large area of wet woodland situated adjacent to the River Yare. The southern area was once a water garden but has now developed into woodland. The site appears to be largely unmanaged although there is local dumping of garden rubbish close to the adjacent houses.
Riding School Meadow CWS (276)	This site is a large area of diverse marshy grassland, part of which has not been grazed for four years. In grazed areas very short turf forms a mosaic with taller fen-like vegetation. In the short turf creeping buttercup <i>Ranunculus repens</i> , white clover <i>Trifolium repens</i> , self-heal <i>Prunella vulgaris</i> and articulated rush <i>Juncus articulata</i> are abundant along with bristle club-rush <i>Isolepis setacea</i> and marsh arrowgrass <i>Triglochin palustris</i> , two regionally scarce species.
Eaton Island CWS (1458)	An inaccessible island situated between two arms of the River Yare. The vegetation comprises neutral marshy grassland subject to flooding. There are

Site name and designation	Description and designation
	some mature broadleaved trees also present within the site, based on the 1985 habitat survey (NWT).
Eaton Street Meadow CWS (1457)	A small semi-improved meadow situated between the River Yare and a supermarket carpark. The grassland is largely dominated by false oat-grass <i>Arrhenatherum elatius</i> together with patches of knapweed, yarrow, spear thistle <i>Cirsium vulgare</i> and ribwort plantain.
Meadow Farm Meadow CWS (199)	This is an interesting and diverse area of marshy grassland which is grazed by horses and contains areas of spring activity, tall fen and scrub and woodland. A stream runs along the southern edge of the site and the Norwich bypass crosses to the west. The grassland is quite variable but where short-grazed the sward is dominated by creeping bent <i>Agrostis stolonifera</i> with Yorkshire fog.
Beckhithe Meadow CWS (2132)	A small meadow sloping down to the west, towards a beck that flows into the River Wensum. The low-lying grassland in the west of the site is largely unimproved or semi-improved and crossed by small ditches that appear to be dry for much of the year, but retaining some dampness. The grassland is characteristic of a degraded spring line, or of fen vegetation that has suffered from some drying. The grassland here is tussocky and contains damp-loving species such as ragged robin, fleabane <i>Pulicaria dysenterica</i> , great horsetail <i>Equisetum telateria</i> and bog stitchwort <i>Stellaria alsine</i> . Common spotted orchid is frequent.
Disused Railway, Hellesdon CWS (1453)	A stretch of abandoned railway line largely overgrown with the north west being rather scrubby and the south east more wooded. There are patches of open dry grassland with abundant herbs. The wooded area in the south east comprises sycamore and oak together with elder <i>Sambucus nigra</i> , hawthorn, and bramble, as well as typical woodland edge species such as hedge woundwort <i>Stachys sylvatica</i> .
Bluebell Marsh CWS (1445)	The southern compartment of the site has no public access and consists of marshy grassland, managed through grazing by Mr Bartram of Bartram Mowers, Bluebell Road. The northern compartment is largely reed bed and is managed by the UEA and open to the public. A strip of willow and alder-dominated woodland connects the two areas. The reed bed in the northern compartment centrally comprises around 90% common reed, however the western side is dominated by lesser pond sedge and is tending more toward fen rather than reed bed. Other grasses include reed canary grass and reed sweet-grass towards the east and in the middle.
Eaton Chalk Pit CWS (2015)	Old chalk workings with steep slopes and hollows which now support broadleaved woodland. Up until the 1960s building spoil was dumped on the site. The tunnels associated with the chalk diggings are designated SSSI because of their use by bats.
Intwood Carr CWS (200)	A moderately large area of predominantly damp broad-leaved semi-natural carr woodland. A small tributary stream of the River Yare flows through part of the site, dividing the woodland from a small area of tall-herb fen. To the north of a narrow thinned strip, the ground becomes progressively more waterlogged and the woodland grades into carr over a ground layer of tall-herb fen crossed by an extensive network of water-filled drains.
Braymeadow CWS (233)	This is a wet, unimproved neutral grassland containing an area of basic flush to the east and a pond which is fed by a dyke to the west. The western half of the meadow is generally drier than the east and supports a low sward with equal proportions of grasses and forbs. Yorkshire fog is abundant with fleabane, marsh bird's-foot trefoil <i>Lotus uliginosus</i> , water figwort <i>Scrophularia auriculata</i> , water mint and common marsh bedstraw.

Site name and designation	Description and designation
Low Common CWS (223)	This is a small mosaic of grassland, fen and woodland around a stream which has been artificially widened towards the centre of the site. The grassland is damp and rank with abundant scrub and trees.
Earlham Cemetery CWS (1461)	This site is a large cemetery within Norwich, which includes native and exotic tree species, interspaced with heavily managed gardens, cultivated beds and regularly mown grassland. There are also extensive areas of less intensively managed improved neutral and basic grassland, divided into compartments by the extensive network of roads and footpaths which cross the site. Unimproved neutral grassland dominates the site.
Mile Cross Meadows CWS (1466)	This site is part of a traditional valley marsh and comprises an area of drier grassland with damp drainage ditches and wet meadow. The semi-improved grassland of the drier parts is fairly short comprising meadow grasses and sweet vernal-grass with yellow rattle and oxeye daisy <i>Leucanthemum vulgare</i> as well as many other grassland species.
Sycamore Crescent Wood CWS (2011)	A long narrow plantation of mature woodland on a sloping site ranging from dry slightly acid soils to damp alluvial soil adjacent to the River Wensum. The canopy is predominantly beech interspaced with oak. The sparse understorey contains elm <i>Ulmus procera</i> and sycamore without any beech regeneration. The ground flora is dominated by nettle and cow parsley <i>Anthriscus sylvestris</i> although a range of typical woodland plants occur including wood avens <i>Geum urbanum</i> and red campion <i>Silene dioica</i> . Bluebell <i>Hyacinthoides non-scripta</i> and Himalayan balsam <i>Impatiens glandulifera</i> occur in the damper soils near the river.
Yare Valley (Marlingford) CWS (230)	This site consists of a diversity of habitats situated on flat land either side of the River Yare. Much of the grassland within the site is grazed but the woodland areas, marsh and tall fen are all apparently unmanaged.
Horsford Rifle Range CWS (2020)	A mosaic of dry dwarf-shrub heath and acidic grassland adjacent to Horsford Woods. The site is privately owned and is used as a shooting range, leased to Smallburgh Rifle & Pistol Club.
Pyehurn Lane Woodland CWS (1353)	The majority of the site is broad-leaved semi-natural woodland. Silver birch dominates with a few oaks present especially along the boundaries, holly and old hawthorn.
The Wilderness CWS (1394)	This site is a dense, neglected area of young scrub, with trees, occupying a shallow depression with several shallow pools some of which are quite species rich.
Horsford Heath CWS (1397)	This site is a mixture of moderately diverse, neutral or slightly acid grassland on sandy soils and thick tall scrub of Scots pine and oak. This damp grassland mostly consists of a rather tussocky sward of Yorkshire fog and false oat-grass, grazed shorter by rabbits in parts. Rosebay willowherb <i>Chamerion angustifolium</i> is frequent, as is thinly scattered nettle. Bracken is present locally.
Botany Bay Farm CWS (2069)	A mosaic of marshy grassland and remnant heath-acidic grassland with scrub and scattered trees on former glebe land, comprising what was historically part of Horsford Heath. It is enclosed on three sides by woodland, which is predominantly commercially managed conifer plantation.
Horsford Woods CWS (2114)	Two connected blocks of mature pine plantation, to the north of Horsford, with a relict heathland vegetation, particularly in the south-west where there is an area of open, maintained heath, and along the rides.
Turnpike Farm Pond CWS (224)	This site comprises a sizeable fenced-off pond surrounded by species-poor grassland. The pond has undergone restoration work with the removal of sediment and planting of marginal vegetation. The surface of the pond is partly covered by

Site name and designation	Description and designation
	white water-lily, broad-leaved pondweed <i>Potamogeton natans</i> , common duckweed <i>Lemna minor</i> , ivy-leaved duckweed <i>Lemna trisulca</i> and rigid hornwort <i>Ceratophyllum demersum</i> . The pond is fed by run-off from the adjacent land and is susceptible to eutrophication; small patches of algae are present.
Yare Valley (Barford) CWS (2216)	This site lies to the south of the River Yare and consists of a mosaic of scrub, fen and wet neutral grassland. Areas of scrub have mature oak and crack willow <i>Salix fragilis</i> over dense sloe <i>Prunus spinosa</i> . The ground flora includes patches of dog's mercury <i>Mercurialis perennis</i> and herb Robert <i>Geranium robertianum</i> where dry, and common reed and great horsetail.
Yare Valley (Colton Wood) CWS (228)	This is an area of low-lying marshy grassland and tall fen situated on either side of the River Yare. The site also includes areas of wet semi-natural woodland and scrub. The grassland areas are grazed by horses under the Countryside Stewardship Scheme and there is public access to the northern side.
North Tuddenham Common CWS (664)	This site is composed of secondary oak - silver birch woodland and some hazel coppice, scrub, grass heath and a pond.
Lake Opposite Futsyweed CWS (674)	This is a site composed of 3 joined lakes with irregular banks, spits and promontories, formed from gravel extraction believed to be in the 1930s -1940s.
Pits near Mill Street CWS (675)	A large eutrophic lake with surrounding semi-natural broad-leaved woodland with open areas of lichens. The lake itself has little aquatic vegetation, but its irregular edge makes it suitable for birds.
Lakes near Lyng CWS (676)	A large lake with several smaller lakes surrounded by semi-improved, neutral grassland and wooded margins.
Sparham House Grounds CWS (678)	The grounds are comprised of scattered mature native and non-native trees over fairly improved neutral grassland, an area of moderately species-rich marshy grassland and a fairly small area of oak and beech dominated woodland.
Land adjacent to Whitwell Common CWS (1324)	This site is an area of continuous tall herb and fen vegetation. Species dominating are great willowherb and abundant reed with patches of soft rush and other rush species with sedges. Thick carpets of moss occur in places along with abundant marsh horsetail <i>Equisetum palustre</i> and meadowsweet.
Whitwell Hall CWS (1325)	This site consists of mainly areas of unimproved and neutral/marshy grasslands, which are relatively species-rich, lying on either side of a small stream. There is also an area of recently planted trees and mixed woodland.
Eades Hill Meadows CWS (1329)	This site is a low lying area of relatively species-rich, partly enclosed neutral grasslands which are subject to flooding and intersected by a series of ditches and a small stream. There is a strip of unimproved species-rich meadow.
Land adjoining Swannington Bottom Plantation CWS (1348)	This site is a silver birch and young oak dominated woodland, with occasional honeysuckle <i>Lonicera periclymenum</i> over a ground flora of bracken and nettle. There is also a small strip of remnant acid woodland which connects with Upgate Common SSSI.
Green Lane CWS (1354)	This site is a mixture of marshy grassland and wet woodland. The grassland varies in its diversity but includes several species-rich areas. The grassland areas are low lying and gently sloping with many free-flowing drains.
Whinney Hills and Common CWS (1352)	This site is a large area of common land. Formerly most would have been heathland but the area now supports mature acid woodland, although patches of heathland do still occur within the site. On lower marshy ground, older areas of woodland support alder whilst in other areas sweet chestnut coppice occurs.

Site name and designation	Description and designation
Horsham Meadows CWS (2178)	This site consists of three fields of cattle-grazed pasture, over heavily undulating terrain. A small stream runs from west to east. A number of large, shallow hollows, believed to be either fossil pingos or thermokarst hollows, are a significant feature of the site.
Hellesdon Pastures CWS (1465)	A herb-rich wet pasture adjacent to the R.Wensum, crossed by a number of shallow dykes and a patchwork of drier short grazed areas. The site is grazed by both horses and cattle. The dykes contain tall fen vegetation of sedges and reed sweet-grass, with meadowsweet, bogbean <i>Menyanthes trifoliata</i> , fool's water-cress and gipsywort.
Woodland Park CWS (1464)	A small but diverse woodland largely isolated by development. It contains many mature trees, especially of sycamore and beech and large patches of bluebell. It is well used by the public and contains many informal paths. Along the west side of the wood large mature trees, especially of beech and sycamore, form a closed high canopy. Other species are much less common, including sweet chestnut and hornbeam.
Melton Beck CWS (226)	This site comprises neutral marshy grassland with a number of ponds, wet depressions and a small stream which forms the northern boundary. The site contains a diverse range of both aquatic and semi-aquatic flora. The surface of the main pond is covered by pondweed <i>Potamogeton</i> sp. whilst the margins are dominated by yellow flag <i>Iris pseudacorus</i> with reed sweet grass, rushes and spike rush <i>Eleocharis</i> sp. present.
The Carrs CWS (178)	This site is situated to the north of the River Yare and is criss-crossed by numerous drains. The soils are wet and neutral to alkaline and support a mosaic of tall herb, fen and marsh vegetation. A strip of woodland runs along the west of the site.
White House Meadows CWS (174)	This is a complex, rich site with a diversity of species-rich habitats on wet neutral to alkaline soils. The woodland is unmanaged and surrounded by deep drains.
Bickerston Meadow CWS (177)	This site consists of a series of marshy meadows along the bottom of a small valley. The area is moderately species-rich but of interest mainly for a small patch of spring-fed vegetation.
Stone Road RNR (73) TG030119	Designated species: rough hawksbeard <i>Crepis biennis</i>

3.5 ANCIENT WOODLAND

3.5.1. Numerous Ancient Woodland parcels were identified within the Field Survey Area, including Hockering Wood, Days Grove, Park Grove, Mouse Wood, Harmans Grove, Jennis Wood, Primrose Grove, Milleplain Plantation, Snake Wood, Blyth's Wood, Blackhill Wood, Easton Reeds and Lords Hill. Hockering Wood is a mixture of Ancient and Semi-Natural Woodland and Ancient Replanted Woodland, while other parcels consist of Ancient and Semi-Natural Woodland and Ancient Replanted Woodland. The 2km Desk Study Area also includes Sparham Grove, Sparham Wood, Colton Wood and The Wilderness. Ancient Woodland is shown in Figure 4, Appendix F.

3.6 VETERAN TREES

3.6.1. Veteran trees refer to ancient and significantly aged trees. They have cultural, historical, landscape and nature conservation value because of their age, size, or condition (Natural England, 2018). The location of these trees within the Field Survey Area has been provided by NBIS. Species recorded included lime *Tilia* sp., pedunculate oak *Quercus robur*, black poplar *Populus nigra*, hornbeam *Carpinus betulus*, ash *Fraxinus excelsior*, holly *Ilex aquifolium*, beech *Fagus sylvatica*, sweet chestnut *Castanea sativa* and plane *Platanus* sp. Records of veteran trees are shown in Figure 4, Appendix F.

3.7 HABITATS OF PRINCIPAL IMPORTANCE (HPI)

3.7.1. Numerous HPI were identified within the Desk Study Area, including:

- Coastal and Floodplain Grazing Marsh;
- Deciduous woodland;
- Good quality semi-improved grassland;
- Lowland Fens;
- Lowland Meadows;
- Traditional Orchards; and
- Woodpasture and Parkland.

3.7.2. Coastal and floodplain grazing marsh is predominantly adjacent to the River Tud and River Wensum. Deciduous woodland is present across the Field Survey Area. Small parcels of semi-improved grassland, lowland fens, lowland meadows and traditional orchards are present across the Field Survey Area. HPIs are shown in Figure 5, Appendix G.

3.8 WATERBODIES

3.8.1. Two rivers are present within the Desk Study Area: the River Wensum SAC, SSSI and the River Tud. The River Wensum SSSI condition scores and assessments are detailed in Table 9. The River Wensum SSSI units within the Desk Study Area are all classed as ‘unfavourable’ and either considered ‘recovering’ or ‘declining’. The River Wensum SSSI units unfavourable condition are related to:

- Inappropriate water levels;
- Inappropriate weirs and dams and other structures;
- Invasive freshwater species;
- Water abstraction;
- Water pollution – agriculture/run-off; and
- Water pollution – discharge.

3.8.2. The River Wensum Environment Agency hydromorphological designation is ‘heavily modified’ with an overall classification for the waterbody as ‘moderate’ for 2016 (Environment Agency, 2018a). The River Tud similarly has an Environment Agency hydromorphological designation as ‘heavily modified’ with an overall classification of the waterbody as ‘moderate’ for 2016 (Environment Agency, 2018b).

3.8.3. There are numerous other waterbodies including draining ditches adjacent to the two rivers Costessey Pits fishing lakes and ponds within the Desk Study Area.

Table 9 - River Wensum SSSI Units Condition Score

SSSI Unit	Condition Score	Protected and Invasive species
37 Sayer Lyng Easthaugh. (Neutral grassland - lowland)	Unfavourable - recovering	Himalyan Balsam and Australian stonecrop
38 Costessey Common South Foster and Mann (Neutral grassland - lowland)	Unfavourable - no change	-
39 Costessey Common South Costessey Parochial Trust (Neutral grassland - lowland)	Unfavourable - no change	-
40 Rogers Farm Joyhold Ltd (Neutral grassland - lowland)	Unfavourable - recovering	Current grazing regime favours appropriate conditions for Desmoulin's whorl snail
41 Rogers Farm The Great Hospital (Neutral grassland - lowland)	Unfavourable - recovering	Current grazing regime favours appropriate conditions for Desmoulin's whorl snail
42 Rogers Farm NRA (Neutral grassland - lowland)	Unfavourable - recovering	Current grazing regime favours appropriate conditions for Desmoulin's whorl snail

SSSI Unit	Condition Score	Protected and Invasive species
43 Rogers Farm Mallett (Neutral Grassland - Lowland)	Unfavourable - recovering	Current grazing regime favours appropriate conditions for Desmoulin's whorl snail
44 Riverside Close Hellesdon Jefferys (Neutral Grassland - Lowland)	Unfavourable - recovering	Himalayan balsam
51 North Elmham - Elsing Mill (River)	Unfavourable - no change	White-clawed crayfish not found. Signal crayfish present
52 Elsing Mill - Lenwade Mill (River)	Unfavourable - no change	Desmoulin's whorl snails at Lenwade Allotments. Himalyan balsam and Australian stonecrop
53 Lenwade Mill - Taverham Mill (River)	Unfavourable - no change	Singal crayfish, Himalyan balsam and water fern <i>Azolla filiculoides</i>
54 Taverham Mill - Hellesdon Mill (River)	Unfavourable - no change	Desmoulin's whorl snail is associated with the wide silty berms upstream of Hellesdon Mill and Costessey Mill and Unit 42 and land immediately adjacent to the SSSI. Himalayan balsam, Japanese knotweed <i>Fallopia japonica</i> and giant hogweed <i>Heracleum mantegazzianum</i> are present.

3.9 PROTECTED SPECIES AND SPECIES OF CONSERVATION CONCERN

3.9.1. A summary of legislation for protected species is provided in Appendix A, with records of species of conservation concern shown in Tables 11-23 in Appendix B.

AMPHIBIANS

- 3.9.2. Great crested newts *Triturus cristatus* are protected from killing, injury and disturbance¹ and their places of rest or shelter (occupied habitat) protected from damage or destruction under the Habitats Regulations. Protection is also afforded under the Wildlife and Countryside Act 1981 (as amended) with respect to disturbance of individuals occupying places of rest or shelter and obstruction of access to these. Activities that would otherwise constitute an offence under this legislation may be licensed by Natural England for certain purposes.
- 3.9.3. Great crested newts and common toad are also listed as Species of Principal Importance (SPI) in accordance with the NERC Act 2006. Public bodies have an obligation under Section 40 to have regard for these species when carrying out their functions.
- 3.9.4. NBIS returned 221 records of great crested newt with the 2km Desk Study Area, of which seven locations were from within the Field Survey Area. One location is within the A47 and A1067, located to the east of Ringland. Locations of records are in Figure 6, Appendix H.
- 3.9.5. Recommendations for further survey for great crested newt are detailed in Section 4.

¹ Disturbance is defined within the Habitats Regulations as that which is likely to impair a species ability to survive, breed or reproduce, hibernate or migrate or to significantly affect the local distribution or abundance of the species.

3.9.6. NBIS provided 129 records of common toad *Bufo bufo*.

3.10 BADGERS

- 3.10.1. The Protection of Badgers Act 1992 makes it illegal to wilfully kill, injure or take any badger, or attempt to do so. It also makes it an offence to intentionally or recklessly damage, destroy or obstruct access to any part of a badger sett. Activities that would otherwise constitute an offence under this legislation may be licensed by Natural England for certain purposes.
- 3.10.2. NBIS returned 141 records of badger within the 2km Desk Study Area, predominantly along roads, the A1067, A47 and Hockering Wood, with scattered records occurring throughout the central Field Survey Area. Locations of records are shown in Figure 7, Appendix I.

3.11 BATS

- 3.11.1. All species of bat recorded within the UK are protected from killing, injury and disturbance and their roosts protected from damage or destruction under the Habitats Regulations. Protection is also afforded under the Wildlife and Countryside Act 1981 (as amended) with respect to disturbance of individuals occupying places of rest or shelter and obstruction of access to these. Activities that would otherwise constitute an offence under this legislation may be licensed by Natural England for certain purposes.
- 3.11.2. Certain species of bat, including Bechstein's bat *Myotis bechsteinii*, greater horseshoe bat *Rhinolophus ferrumequinum* and lesser horseshoe bat *Rhinolophus hipposideros*, noctule *Nyctalus noctula*, brown long-eared bat *Plecotus auritus* and soprano pipistrelle *Pipistrellus pygmaeus* are listed as SPI. Section 40 of the NERC Act 2006 obliges public bodies (including local planning authorities) to have regard for the conservation of biodiversity (including SPI) when discharging their duties (including determining planning applications).
- 3.11.3. Ten species of bat have been recorded from the Field Survey Area and 2km Desk Study Area; barbastelle *Barbastella barbastellus*, serotine *Eptesicus serotinus*, Daubenton's bat *Myotis daubentonii*, whiskered bat *Myotis mystacinus*, Natterer's bat *Myotis nattereri*, noctule, Nathusius' pipistrelle *Pipistrellus nathusii*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle and brown long-eared bat, with a possible record of Brandt's bat *Myotis brandtii*. Bat records are largely concentrated along the River Wensum.
- 3.11.4. Records for Natural England bat roosts were provided, only to a 1km resolution, predominantly brown long-eared and pipistrelle species, which are distributed across the 2km Desk Study Area.
- 3.11.5. Barbastelle are listed under Annex II of the Habitats Directive. Barbastelle records are primarily within the Dinosaur Adventure Park, along Marriot's Way CWS and Taverham Hall School with a scattered distribution around the wider Field Survey Area.
- 3.11.6. Greena Ecological Consultancy (2013) carried out radiotracking studies for barbastelle as part of the Norwich Northern Distributor Road. As part of this work, roosts were confirmed within the Dinosaur Park and in proximity to Taverham Hall School. Commuting routes were confirmed across the Fakenham Road near to the Dinosaur Park.
- 3.11.7. Locations of records provided by NBIS are in Figures 8, 9, 10 and 11, Appendix J.
- 3.11.8. Recommendations for further surveys for bats are detailed in Section 4.

3.12 BIRDS

- 3.12.1. Under the amendments to the Habitat Regulations (16th August 2012) Reg 9A (2) & (3) state that local authorities 'must take such steps in the exercise of their functions as they consider appropriate to contribute to...the preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in the UK including by means of the upkeep, management and creation of such habitat...'. The legislation continues to state that economic and recreation requirements must be taken into consideration in considering which measures are appropriate.
- 3.12.2. Under the Wildlife and Countryside Act 1981 (as amended) all wild birds are protected from killing and injury, and their nests and eggs protected from taking, damage and destruction whilst in use. Additional protection is extended to species listed under Schedule 1 of the Act, meaning it is also an offence to disturb these species at or near the nest, or whilst they have dependent young.

BREEDING BIRDS

- 3.12.3. NBIS returned a large number of bird records with the 2km Desk Study Area including Schedule 1 species such as hobby *Falco Subbuteo*, brambling *Fringilla montifringilla* and barn owl *Tyto alba*. Birds of Conservation Concern (BoCC) red list species recorded included nightingale *Luscinia megarhynchos*, house sparrow *Passer domesticus*, skylark *Alauda arvensis* and lapwing *Vanellus vanellus*. Amber list species included swift *Apus apus*, kingfisher *Alcedo atthis* and green sandpiper *Tringa ochropus*.

WINTERING BIRDS

- 3.12.4. NBIS records show a number of wintering bird records from within the 2km Desk Study Area, including fieldfare *Turdus pilaris*, redwing *Turdus iliacus* and lesser redpoll *Acanthis cabaret*.
- 3.12.5. Ducks recorded include teal *Anas crecca*, wigeon *Anas Penelope* and tufted duck *Aythya fuligula*. Goose records are predominantly pink-footed goose *Anser brachyrhynchus* and greylag goose *Anser anser*.
- 3.12.6. Recommendations for further bird surveys are detailed in Section 4.

3.13 INVERTEBRATES

- 3.13.1. NBIS returned a number of invertebrate species for group including dragonflies, true bugs, beetles, moths, butterflies, hoverflies, true flies and hymenoptera. These include species protected under the Wildlife and Countryside Act such as Norfolk hawk *Anaciaeschna isosceles*. Desmoulin's whorl snail records are shown in Figure 12, Appendix K.
- 3.13.2. Recommendations for further invertebrate surveys are detailed in Section 4.

3.14 OTTER

- 3.14.1. Otters receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended) with additional protection under the Wildlife and Countryside Act 1981 (as amended).
- 3.14.2. NBIS returned 86 records of otter *Lutra lutra* within the 2km Desk Study Area, located along the River Wensum and River Tud, with a single record from the A47 and two locations to the south-west. Locations of records are in Figure 13, Appendix L.
- 3.14.3. Recommendations for further survey are detailed in Section 4.

3.15 RARE/NOTABLE PLANT SPECIES

- 3.15.1. NBIS returned records for species listed as Norfolk Rare Plants such as fen pondweed *Potamogeton coloratus*, opposite-leaved pondweed *Groenlandia densa*, large yellow-sedge *Carex flava* and tubular water-dropwort *Oenanthe fistulosa*.

3.16 REPTILES

- 3.16.1. Native widespread reptile species (common lizard, adder, grass snake and slow worm) are partially protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This includes protection from killing and injury.
- 3.16.2. All reptile species are also listed as SPI in accordance with Section 41 of the NERC Act 2006. Public bodies have an obligation under Section 40 to have regard for these species when carrying out their functions.
- 3.16.3. NBIS returned 68 records for slow worm, 26 common lizard, 75 grass snake and 10 adder from the 2km Desk Study Area with records scattered across the Field Survey Area, with grass snake records concentrated in the south-east. Locations of records are in Figure 14, Appendix M.
- 3.16.4. Recommendations for further survey are detailed in Section 4.

3.17 WATER VOLE

- 3.17.1. Water voles are legally protected under the Wildlife and Countryside Act 1981 (as amended). Water voles are also listed as SPI
- 3.17.2. NBIS returned 108 records of water vole *Arvicola amphibius* from the 2km Desk Study Area, predominantly along the River Wensum, with other records scattered across the Desk Study Area. Locations of records are in Figure 13, Appendix L.

3.17.3. Recommendations for further survey are detailed in Section 4.

3.18 WHITE-CLAWED CRAYFISH

- 3.18.1. White-clawed crayfish *Austropotamobius pallipes* receive partial protection under Schedule 5 of the WCA. This prohibits the taking of any native crayfish for any purpose except under licence. They are listed on Annex II and V of the European Communities Habitats Directive (1992), which allows sites to be designated on the basis of the species being present.
- 3.18.2. White-clawed crayfish are also a Species of Principal Importance in England and Wales under Section 41 and Section 42 respectively of the NERC. They can therefore be considered a material consideration in a planning application.
- 3.18.3. NBIS returned 53 records of white-clawed crayfish from the 2km Desk Study Area, predominantly along the River Wensum with records from 2001 – 2009. There are no records from the River Wensum since 2009 and the last SSSI condition assessment indicated that signal crayfish *Pacifastacus leniusculus* were now dominant.
- 3.18.4. The most recent record of white-clawed crayfish from the Field Survey Area is from 2012 and from the River Tud. The record from the centre of the Field Survey Area appears that it may be an error. Locations of records are in Figure 15, Appendix N.

3.19 OTHER MAMMALS

- 3.19.1. NBIS returned 270 records of hedgehog *Erinaceus europaeus*, distributed across the Field Survey Area. 11 records of harvest mouse *Micromys minutus* and 90 records of brown hare *Lepus europaeus*.

3.20 INVASIVE SPECIES

- 3.20.1. Section 14(1) of the Wildlife and Countryside Act 1981 (as amended) makes it illegal to plant or otherwise cause to grow in the wild any plant listed in Schedule 9 to the Act.
- 3.20.2. NBIS returned records for 19 species of non-native species, including Canadian waterweed, Japanese knotweed, Himalayan balsam, rhododendron *Rhododendron ponticum*, New Zealand pigmyweed *Crassula helmsii*, parrot's-feather *Myriophyllum aquaticum*, water fern and giant hogweed.
- 3.20.3. Other species were signal crayfish, Canada goose *Branta canadensis*, Egyptian goose *Alopochen aegyptiacus*, ruddy duck *Oxyura jamaicensis*, ring-necked parakeet *Psittacula krameria*, common carp *Cyprinus carpio*, rainbow trout *Oncorhynchus mykiss*, red-eared terrapin *Trachemys scripta*, American mink *Neovison vison*, Chinese water deer *Hydropotes inermis* and muntjac *Muntiacus reevesi*.

4

DISCUSSION AND RECOMMENDATIONS



4 DISCUSSION AND RECOMMENDATIONS

4.1 FURTHER SURVEYS

When a route option has been chosen, the surveys summarised in Table 10 are likely to be necessary to further investigate ecological resources to inform the scheme design, mitigation measures, and planning application. Consultation with the Local Planning Authority and Natural England are recommended to confirm the need for and scope of these surveys.

Table 10 – Provisional recommendations for further survey

Survey type	Survey requirements	Seasonal Limitations
Phase 1	Detailed Phase 1 of 250m from route with full land access	Ideally April to September
Great crested newt	Habitat suitability Index (HSI) on all waterbodies on-site and within 500m from the Site. eDNA or population estimates.	eDNA sampling to be undertaken from mid-April to the end of June. Population estimates using traditional methods carried out mid-March to mid-June with half of visits from mid-April to mid-May.
Roosting bats – Preliminary Roost Assessment (PRA)	Preliminary Bat Roost Assessments (PRAs) of structures including buildings, culverts, railway bridges, underground structures, and trees.	At any time of year, although winter is best for tree assessments.
Roosting bats – Emergence and Return to Roost Surveys	Follow up emergence and return to roost surveys for structures listed above identified as having bat roost potential.	Emergence and return to roost surveys May - September
Foraging / commuting bats	To determine the bat species present and levels of activity across the Site, bat activity transect surveys and automated monitoring is recommended. Surveys should comprise walked transects in each month and the deployment of automated detectors in multiple locations on a monthly basis during the active bat season for a period of 5 nights per device per month.	April to October
Defra landscape scale assessment and Crossing points	10 x 1km walked transects perpendicular to the road on both sides. Linear habitat features that will be severed by road. 6 x 60 min surveys at dusk or dawn per site	June to August optimum. May and September also acceptable
Schedule II bats	Radiotracking of barbastelle	Outside of gestation period April to October
Winter hibernating bats	Structures including buildings, culverts, railway bridges, underground structures, and trees	Two surveys on the coldest days, one in January and February
Terrestrial invertebrates including	Survey Area to be assessed by entomologist for suitability to support invertebrate assemblages.	May to September

Survey type	Survey requirements	Seasonal Limitations
Desmoulin whorl snails	Pitfall traps, pan traps, sweep netting beating, grubbing and shallow pond netting Butterfly transects using UK Butterfly Monitoring Scheme (UKBMS) and dragonfly surveys	
Breeding bird	Due to range of habitats present on Site, and potential for a range of breeding bird species to be present including ground nesting species, it is recommended that surveys are completed to enable evaluation of the breeding bird community present. Survey methods should be selected with regard for good practice guidance (Bibby <i>et al.</i> 2000).	April to June
Wintering birds	Dependent on the presence of suitable habitat for wintering birds on the Site.	November to March
Badger	Initial survey, walkover Bait marking if a main sett is to be affected	Initial walkover at any time of year, preferably Bait marking September to November
Otter	All waterbodies and watercourses will require survey	All year round (can be combined with water vole)
Water vole	All waterbodies and watercourses will require survey	Two visits mid - April to June July to September
Aquatic Macroinvertebrates	Spring and autumn monitoring for aquatic macroinvertebrates at proposed river crossings (ideally upstream and downstream of crossing points too).	Spring season - March to May inclusive Autumn season – September to November inclusive
Fish	Fully quantitative surveys (electric fishing) for salmonids, coarse fish and eels at proposed crossing points/sites which may be affected by the development. Ideally, sites upstream of, downstream of and within the construction zone should be considered (but may need to limit to single sites due to budgets). For lamprey (and juvenile eels), quadrat based surveys in optimal and sub-optimal habitat should be conducted within the construction zone and other areas likely to be affected. Eel surveys may also be required within the networks of off-line channels	Surveys are best completed outside of key spawning seasons, or at times of high river flow, so anytime between March and November is recommended, subject to spawning. Surveys for juvenile eels are best carried out during the late spring and early summer.
White-clawed crayfish	White-clawed crayfish surveys required at crossing points within the scheme red line boundary	May to October inclusive; Optimum time is July to September
Hedgerows	Hedgerow assessments, with criteria including: Hedgerows more than 30 years old; Protected species present; and Number of woody species	April - October

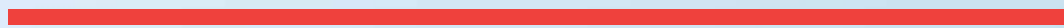
Survey type	Survey requirements	Seasonal Limitations
National vegetation classifications	Dependent on the presence of suitable habitat for protected and notable flora on the Site.	Woodland - April - May Other habitats - June - August
Reptiles	Areas identified as having potential to support reptiles will require artificial refugia for presence/likely absence surveys	March – June September - October
River Habitat Survey/River Corridor Survey	The Wensum is classified as Heavily Modified, however an RHS/RCS survey may be useful for describing baseline conditions and monitoring change.	May - October

4.2 HABITATS REGULATIONS ASSESSMENT

- 4.2.1. The possibility of effects on European designated sites will be addressed fully in a Habitat Regulations Assessment.

5

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5 BIBLIOGRAPHY

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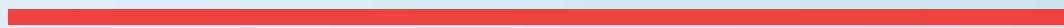
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Appendix A

LEGISLATION



ENGLAND & WALES LEGISLATION AND POLICY CONTEXT

This report has been compiled with reference to relevant wildlife legislation, planning policy and the UK Biodiversity Framework. An overview and context of relevant legislation is provided, with the relevant protection each species groups or species receives summarised in Table 1.

The Wildlife and Countryside Act 1981, (as amended) (WCA)

Protected birds, animals and plants are listed under Schedules 1, 5, 8 and 9 respectively of the WCA, a description of these Schedules and their meaning is provided below.

Under the WCA (England and Wales) all birds, their nests and eggs (with exception of species listed under Schedule 2) are protected by the WCA. It is an offence to:

- Intentionally kill, injure, or take any wild bird,
- Take or destroy an egg of any wild bird.
- Damage or destroy the nest of any wild bird (whilst being built, or in use). Under the WCA the clearance of vegetation within the survey area boundary, or immediately adjacent to the survey area during the bird nesting season could result in an offence occurring by the disruption or destruction of nest sites. The bird breeding season can be taken to occur between March - August inclusive, although is subject to variations based on species, geographical and seasonal factors.

Schedule 1

Birds listed under Schedule 1 of the WCA² are afforded additional protection with regard to intentional or reckless disturbance whilst nest-building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Schedule 5

Species listed in Schedule 5 can either be fully protected or be partially protected under Section 9, which makes it unlawful to intentionally:

- Part 1: kill, injure or take;
- Part 2: possess or control (live or dead animal, part or derivative);
- Part 4 (a): damage or destruct any structure used for shelter or protection;
- Part 4 (b): disturb them in a place of shelter or protection;
- Part 4 (c): obstruct access to place of shelter or protection;
- Part 5 (a): sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative);
- Part 5 (b): advertise for buying or selling.

Schedule 8

The Act makes it an offence (subject to exceptions) to pick, uproot, trade in, or possess (for the purposes of trade) any wild plant listed in Schedule 8, and prohibits the unauthorised intentional uprooting of such plants.

Schedule 9

Invasive species listed under Schedule 9 are prohibited from release into the wild and the Act prohibits planting or “causing to grow” in the wild of any plant species listed in Schedule 9. It should be noted that certain bird species listed on Schedule 1 of the WCA are also listed on Schedule 9 to prevent release of non-native and captive individuals, this includes barn owl, red kite, goshawk and corncrake.

Countryside Rights of Way Act 2000 (CRoW Act)

The CRoW Act has amended the WCA in England and Wales strengthening the protection afforded to Sites of Special Scientific Interest (SSSI) and the legal protection for threatened species. It adds the word ‘reckless’ to the wording of the offences listed under Section 9(4) of the WCA. This alteration makes it an offence to recklessly commit an offence, where previously an offence had to be intentional to result in a breach of legislation.

Natural Environment and Rural Communities (NERC) Act 2006

Species and Habitats of Principal Importance in England and Wales are listed under Section 41 and Section 42 respectively of the NERC Act. The Section 41 and 42 lists detail species that are of principal importance for the conservation of biodiversity in England and Wales, and should be used to guide decision-makers such as local and regional authorities when implementing their duty to have regard for the conservation of biodiversity in the exercise of their normal functions – as required under Section 40 of the NERC Act 2006.

The Environment (Wales) Act 2016

The Environment (Wales) Act 2016 (<http://www.legislation.gov.uk/anaw/2016/3/contents/enacted>) puts in place the legislation needed to plan and manage Wales’ natural resources in a more proactive, sustainable and cohesive way. Section 7 replaces the duty in Section 42 of the NERC Act 2006 and it places a duty on the Welsh Ministers to publish, review and revise lists of living organisms and types of habitats which they consider are of key significance to sustain and improve biodiversity in Wales. The species and habitat lists are identical to those in Section 42 but it should be noted it is currently under review (23.03.2017).

The Protection of Badgers Act (1992)

It is an offence to wilfully take, kill, injure, possess or ill-treat a badger. Under the Act their setts are protected against intentional or reckless interference. Sett interference includes damaging or destroying a sett, obstructing access to any part of the sett, or disturbance of a badger whilst it is occupying a sett. The Act defines a badger sett as ‘any structure or place, which displays signs indicating the current use by a badger’ and Natural England takes this definition to include seasonally used setts that are not occupied but that show sign of recent use by badgers (Natural England, 2009³).

² To view the current list of Schedule 1 listed birds visit: <http://www.legislation.gov.uk/ukpga/1981/69/schedule/1>.

³ Natural England, June 2009, Protection of Badgers Act 1992 (as amended), Guidance on ‘Current Use’ in the definition of a Badger Sett WMLG17, Natural England, Peterborough.

If impacts to badgers or their setts are unavoidable then authorised sett disturbance requires a licence.

The UK Post-2010 Biodiversity Framework (2011-2020) (JNCC and DEFRA, 2012)

This Framework lists the UK's most threatened species and habitats and sets out targets and objectives for their management and recovery. The UK Biodiversity Action Plan (BAP) process is delivered nationally, regionally and locally and should be used as a guide for decision-makers to have regards for the targets set by the framework and the goals they aim to achieve. The UK BAP has now been replaced by the UK Post-2010 Biodiversity Framework, however, it contains useful information on how to characterise important species assemblages and habitats which is still relevant (UK Post-2010 Biodiversity Framework, 2012⁴).

The Conservation of Habitats and Species Regulations 2017

The Conservation of Habitats and Species Regulations 2017 consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. The Regulations transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law. They also transpose elements of the EU Wild Birds Directive in England and Wales. The Regulations came into force on 30th November 2017, and extend to England and Wales (including the adjacent territorial sea) and to a limited extent in Scotland (reserved matters) and Northern Ireland (excepted matters). In Scotland, the Habitats Directive is transposed through a combination of the Habitats Regulations 2010 (in relation to reserved matters) and the Conservation (Natural Habitats &c.) Regulations 1994. The Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995 (as amended) transpose the Habitats Directive in relation to Northern Ireland.

All species listed under Annex IV of the Habitats Directive require strict protection and are known as European Protected Species (EPS). Under Regulation 42 of the Habitats Regulations it is unlawful to:

- Deliberately kill, capture or disturb;
- Deliberately take or destroy the eggs of; and
- Damage or destroy the breeding site/resting place of any species protected under this legislation.

If the Ecologist determines that impacts to EPS are unavoidable then the works may need to be carried out under a site specific mitigation licence from Natural England or Natural Resources Wales. Low Impact Class licences are also available in both England and Wales for bats and great crested newts. This enables Registered Low Impact Consultants to undertake certain low impact activities reducing the EPS application paperwork and process length.

Certain EPS are also listed under Annex II of the Habitats Directive and are afforded protection by the establishment of core areas of habitat known as Special Areas of Conservation. This means these species are a relevant consideration in a Habitats Regulations Assessment.

The Birds Directive seeks to maintain populations of all wild bird species across their natural range (Article 2). All bird species listed under Annex I⁵ of the Birds Directive are rare or vulnerable and afforded protection by the designation of SPAs. These are also designated under all regularly occurring migratory species, with regard to the protection of wetlands of international importance (Article 4). This means these bird species and communities are a relevant consideration in Habitats Regulations Assessment.

⁴ JNCC and Defra (on behalf of the Four Countries' Biodiversity Group), July 2012, UK Post-2010 Biodiversity Framework, Available from: http://jncc.defra.gov.uk/pdf/UK_Post2010_Bio-Fwork.pdf.

⁵ To view birds listed under Annex I visit: http://ec.europa.eu/environment/nature/conservation/wildbirds/threatened/index_en.htm

Key Species and National Wildlife Legislation, Policy and Biodiversity Framework Applicable in England

Species	Legislation, Planning Policy and UK Biodiversity Framework							
	Wildlife and Countryside Act 1981 (as amended), (WCA)				The Conservation of /Habitats and Species Regulations 2010 (as amended) (Habitats Regulations) - Regulation 41	Natural Environment and Rural Communities (NERC) Act 2006 / The Environment(Wales) Act (2016)	The Protection of Badgers Act 1992	The UK Post-2010 Biodiversity Framework 2011-2020 (JNCC and DEFRA, 2012)
	Schedule 1	Schedule 5	Schedule 8	Schedule 9	European Protected Species (Annex IV of the EC Habitats Directive),			
Badger							✓	
Bats		✓ ⁶ (part)			✓ ⁷	✓ ⁸		✓ ⁹
Hazel Dormouse		✓ 5(part)			✓	✓		✓
Otter		✓ 5(part)			✓	✓		✓
Water vole		✓ ¹⁰ (full)				✓		✓
Birds	✓			✓ ¹¹		✓ ¹²		✓ ¹³
Reptiles		✓ ¹⁴ (part)□		✓ ⁹	✓ ¹⁵	✓ ¹⁶		✓ ¹⁷

⁶ These species are partially protected under section 9(4)(b), (4)(c) and (5).

⁷ Only Barbastelle (*Barbastella barbastellus*), Bechstein's bat (*Myotis bechsteinii*), greater horseshoe bat (*Rhinolophus ferrumequinum*) and lesser horseshoe bat (*Rhinolophus hipposideros*) are listed on Annex II of the Habitats Directive.

⁸ Greater horseshoe bat, lesser horseshoe bat, Bechstein's bat, noctule (*Nyctalus noctula*), soprano pipistrelle (*Pipistrellus pygmaeus*), brown long-eared bat (*Plecotus auritus*) and barbastelle are listed as Species of Principal Importance in England with the addition of common pipistrelle (*Pipistrellus pipistrellus*) in Wales listed under

Section 7 of the Environment (Wales) Act (2016) <http://www.legislation.gov.uk/ukpga/2006/16/contents>.

⁹ Barbastelle bat, Bechstein's bat, noctule, soprano pipistrelle, brown long-eared bat, greater horseshoe bat, lesser horseshoe bat are listed as UK BAP species of bat.

¹⁰ Class Licences are available to Registered Consultants to intentionally disturb, damage or destroy water vole burrows or to displace water voles from their burrows in relation to a development proposal where the licensed action provides a conservation benefit for water voles. Certain displacement operations may be carried out under a Class licence by a registered person in England, however in Wales all displacement operations must be carried out under a site specific licence.

¹¹ To view plants and animals listed on Schedule 9 Part 1 visit <http://www.legislation.gov.uk/ukpga/1981/69/schedule/9> [accessed 6 April 2017]

¹² There are 49 species of birds listed as Species of Principal Importance in England in Section 41 of the NERC Act 2006 and 51 species in Wales under Section 7 of the Environment (Wales) Act (2016) <http://www.legislation.gov.uk/ukpga/2006/16/contents>.

¹³ To view the current list of UK BAP priority birds visit: <http://jncc.defra.gov.uk/page-5163>.

¹⁴ The four common reptile species, Adder (*Vipera berus*), Grass snake (*Natrix natrix*), Common lizard (*Zootoca vivipara*) and Slow worm (*Anguis fragilis*) are offered partial protection under section 9(5). The rarer UK reptile species (Smooth snake (*Coronella austriaca*) and Sand lizard (*Lacerta agilis*) are partially protected under section 9(4)(b) and (c) and (5).

¹⁵ Smooth snake (*Coronella austriaca*) and Sand lizard (*Lacerta agilis*) are the only reptiles to be designated as European Protected Species.

¹⁶ All 6 reptile species are listed as Species of Principal Importance in England listed under Section 41 of the NERC Act 2006 and 5 species, excluding smooth snake, listed under Section 7 of the Environment (Wales) Act (2016) <http://www.legislation.gov.uk/ukpga/2006/16/contents>.

¹⁷ To view the current list of UK BAP priority herptile species visit: <http://jncc.defra.gov.uk/page-5166>.

Key Species and National Wildlife Legislation, Policy and Biodiversity Framework Applicable in England

Species	Legislation, Planning Policy and UK Biodiversity Framework							
Amphibians		✓ 18(part)		✓ 19	✓ 20, 21	✓ ²²		
White-clawed Crayfish		✓ 23(partial)			✓ ²⁴	✓		✓
Invertebrates		✓ 25(full/part)		✓	✓ 26, 27	✓ ²⁸		✓ ²⁹
Fish		✓ ³⁰ (full/part)		✓ ⁹	✓ 31, 32	✓ ³³		✓ ³⁴
Plants			✓ ³⁵	✓ ⁹	✓ 36, 37	✓ 38		✓ 39

Table A 1

¹⁸ The four common reptile species, Adder (*Vipera berus*), Grass snake (*Natrix natrix*), Common lizard (*Zootoca vivipara*) and Slow worm (*Anguis fragilis*) are offered partial protection under section 9(5). The rarer UK reptile species (Smooth snake (*Coronella austriaca*) and Sand lizard (*Lacerta agilis*)) are partially protected under section 9(4)(b) and (c) and (5).

¹⁹ Common frog (*Rana temporaria*), Common toad (*Bufo bufo*), Smooth newt (*Lissotriton vulgaris*) and Palmate newt (*Lissotriton helveticus*) are offered partial protection under section 9(5). Great crested newt (*Triturus cristatus*) and Natterjack toad (*Epidalea calamita*) are offered partial protection under section 9(4)(b) and (c) and (5). Pool frog (*Pelophylax lessonae*) is offered partial protection under section 9(4)(b) and (c)(1) only and with respect to England only.

²⁰ Great crested newt, Natterjack toad and Pool frog are the only amphibians to be designated European Protected Species.

²¹ Great crested newt is the only amphibian listed on Annex II of the Habitats Directive.

²² Great crested newt, Natterjack toad and Common toad are listed as Species of Principal Importance in England in Section 41 of the NERC Act 2006 and under Section 7 of the Environment (Wales) Act (2016) <http://www.legislation.gov.uk/ukpga/2006/16/contents>.

²³ Under the Wildlife and Countryside Act it is illegal to take or sell white clawed crayfish under the WCA. A licence is required to survey (hand net or trap) for the species. To undertake work within WCC inhabited rivers a Class Licence may be issued by the relevant authority to move WCC away from harm prior to works. Although WCC are not protected from killing or injury Natural England state in their Class licence that due to declining numbers all efforts should be made to conserve the species.

²⁴ White clawed crayfish are listed under Annex II and V of the Habitats Directive.

²⁵ To view the current list of invertebrates that are protected under this Act either in part or full visit: <http://www.legislation.gov.uk/ukpga/1981/69/schedule/5>.

²⁶ The Large blue butterfly (*Maculinea arion*), Fisher's estuarine moth (*Gortyna borelii lunata*) and Lesser whirlpool ram's-horn snail (*Anisus vorticulus*) are the only invertebrates to be designated European Protected Species.

²⁷ There are currently twelve invertebrates listed in Annex II of the Habitats Directive; White-clawed crayfish (*Austropotamobius pallipes*), Southern damselfly (*Coenagrion mercuriale*), Marsh fritillary butterfly (*Eurodryas aurinia*), Violet click beetle (*Limonicus violaceus*), Stag beetle (*Lucanus cervus*), Freshwater pearl mussel (*Margaritifera margaritifera*), Narrow-mouthed whorl snail (*Vertigo angustior*), Round-mouthed whorl snail (*Vertigo genesii*), Geyer's whorl snail (*Vertigo geyeri*), Desmoulin's whorl snail (*Vertigo moulinsiana*), Lesser whirlpool ram's-horn snail (*Anisus vorticulus*) and Fisher's estuarine moth (*Gortyna borelii lunata*).

²⁸ There are currently 379 invertebrate species (not including marine species) listed as Species of Principal Importance in England http://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&ved=0ahUKEwivvu7J9trSAhXiCsAKHX4TBGcQFggvMAM&url=http%3A%2F%2Fpublications.naturalengland.org.uk%2Ffile%2F6518755878240256&usq=AFQjCNEpiUWYuOqhVcfSDvi_3iK2TJytfQ and 188 species in Wales http://www.eryri-npa.gov.uk/data/assets/pdf_file/0003/486156/SpeciesList.pdf listed under Section 41 of the NERC Act 2006 and listed under Section 7 of the of the Environment (Wales) Act 2016.

²⁹ To view the current list of UK BAP priority invertebrates visit: <http://jncc.defra.gov.uk/page-5169>.

³⁰ To view the current list of fish either part or fully protected under the Act visit: <http://www.legislation.gov.uk/ukpga/1981/69/schedule/5>.

³¹ Sturgeon (*Acipenser sturio*) is the only fish to be designated a European Protected Species.

³² There are eight fish species listed on Annex II of the Habitats Directive. To view the current list visit: <http://jncc.defra.gov.uk/page-1523>.

³³ There are 35 species of fish listed as Species of Principal Importance in England listed under Section 41 of the NERC Act 2006 and 10 species in Wales listed under Section 7 of the Environment (Wales) Act 2016.

³⁴ To view the current list of UK BAP priority fish visit: <http://jncc.defra.gov.uk/page-5164>.

³⁵ To view the current list of Schedule 8 listed plants visit: <http://www.legislation.gov.uk/ukpga/1981/69/schedule/8>.

³⁶ There are nine plant species designated as European Protected Species. To view the current list visit: <http://www.legislation.gov.uk/ukxi/2010/490/schedule/5/made>.

³⁷ To view the current list of plant species on Annex II of the Habitats Directive visit: <http://jncc.defra.gov.uk/page-1523>.

³⁸ There are currently 152 vascular plants listed as Species of Principal Importance in England listed under Section 41 of the NERC Act 2006 and 77 species in Wales listed under Section 7 of the Environment (Wales) Act 2016.³¹ To view the current list of UK BAP priority plants visit: <http://jncc.defra.gov.uk/page-5171> and <http://jncc.defra.gov.uk/page-5168>.

³⁹ To view the current list of UK BAP priority plants visit: <http://jncc.defra.gov.uk/page-5171> and <http://jncc.defra.gov.uk/page-5168>.

Appendix B

SPECIES OF CONSERVATION CONCERN

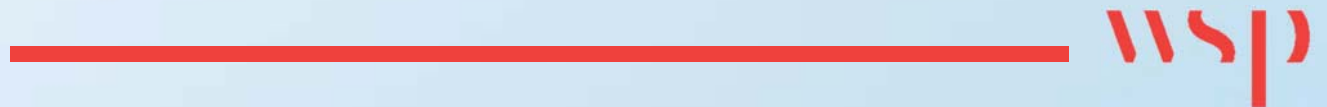


Table 11 - Species of Conservation Concern - amphibians

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Smooth Newt	<i>Lissotriton vulgaris</i>	amphibian	115	Bern3, WCA5/9.5a, WCA5/9.5b, WO5
Great Crested Newt	<i>Triturus cristatus</i>	amphibian	221	Bern2, FEP7/2, HabRegs2, HSD2p, HSD4, ScotBL, Sect.41, Sect.42, UKBAP, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b
Common Toad	<i>Bufo bufo</i>	amphibian	129	Bern3, Sect.41, Sect.42, UKBAP, WCA5/9.5a, WCA5/9.5b
Common Frog	<i>Rana temporaria</i>	amphibian	128	Bern3, HSD5, WCA5/9.5a, WCA5/9.5b

Table 12 - Species of Conservation Concern - bird

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Canada Goose	<i>Branta canadensis</i>	bird	60	BD2.1, CMS_A2
Barnacle Goose	<i>Branta leucopsis</i>	bird	17	BAmb, BD1, Bern2, CMS_A2, CMS_AEWA-A2, FEP7/2, ScotBL
Goldeneye	<i>Bucephala clangula</i>	bird	38	BAmb, BD2.2, CMS_A2, CMS_AEWA-A2, WCA1ii, WO1ii
Mute Swan	<i>Cygnus olor</i>	bird	58	BD2.2, CMS_A2, CMS_AEWA-A2
Bewick's Swan	<i>Cygnus columbianus</i>	bird	36	BAmb, BD1, Bern2, CMS_A2, CMS_AEWA-A2, ScotBL, WCA1i, WO1i
Bewick's Swan	<i>Cygnus columbianus subsp. bewickii</i>	bird	32	BAmb, BD1, Bern2, CMS_A2, CMS_AEWA-A2, ScotBL, Sect.41, Sect.42, UKBAP, WCA1i, WO1i
Whooper Swan	<i>Cygnus cygnus</i>	bird	21	BAmb, BD1, Bern2, CMS_A2,

Common Name	Latin Name	Taxon Group	Number of Records	Designation
				CMS_AEWA-A2, FEP7/2, ScotBL, WCA1i, WO1i
Red-breasted Merganser	<i>Mergus serrator</i>	bird	1	BD2.2, CMS_A2, CMS_AEWA-A2
Goosander	<i>Mergus merganser</i>	bird	252	BD2.2, CMS_A2, CMS_AEWA-A2, WO1i
Mergus merganser subsp. merganser	<i>Mergus merganser subsp. merganser</i>	bird	41	BD2.2, CMS_A2, CMS_AEWA-A2, WO1i
Bean Goose	<i>Anser fabalis</i>	bird	1	BAmb, BD2.1, CMS_A2, CMS_AEWA-A2, ScotBL
Tundra Bean Goose	<i>Anser fabalis subsp. rossicus</i>	bird	3	BAmb, BD2.1, CMS_A2, CMS_AEWA-A2, ScotBL
Pink-footed Goose	<i>Anser brachyrhynchus</i>	bird	75	BAmb, BD2.2, CMS_A2, CMS_AEWA-A2
White-fronted Goose	<i>Anser albifrons</i>	bird	3	BD2.2, CMS_A2, CMS_AEWA-A2, ScotBL
European Greater White-fronted Goose	<i>Anser albifrons subsp. albifrons</i>	bird	4	BD2.2, BRed, CMS_A2, CMS_AEWA-A2, ScotBL, Sect.41, UKBAP
Greylag Goose	<i>Anser anser</i>	bird	97	BAmb, BD2.1, CMS_A2, CMS_AEWA-A2, WCA1ii
Snow Goose	<i>Anser caerulescens</i>	bird	5	CMS_A2
Shelduck	<i>Tadorna tadorna</i>	bird	14	Bern2, CMS_A2, CMS_AEWA-A2
Mandarin Duck	<i>Aix galericulata</i>	bird	8	CMS_A2
Wigeon	<i>Anas penelope</i>	bird	59	BD2.1, CITESC, CMS_A2, CMS_AEWA-A2, WO1ii
American Wigeon	<i>Anas americana</i>	bird	5	BAmb, CMS_A2
Gadwall	<i>Anas strepera</i>	bird	62	BAmb, BD2.1, CMS_A2,

Common Name	Latin Name	Taxon Group	Number of Records	Designation
				CMS_AEWA-A2, WO1ii
Teal	<i>Anas crecca</i>	bird	52	BAmb, BD2.1, CITESC, CMS_A2, CMS_AEWA-A2
Anas crecca subsp. crecca	<i>Anas crecca subsp. crecca</i>	bird	14	BAmb, BD2.1, CITESC, CMS_A2, CMS_AEWA-A2
Mallard	<i>Anas platyrhynchos</i>	bird	129	BAmb, BD2.1, CMS_A2, CMS_AEWA-A2
Pintail	<i>Anas acuta</i>	bird	12	BAmb, BD2.1, CITESC, CMS_A2, CMS_AEWA-A2, WCA1ii, WO1ii
Garganey	<i>Anas querquedula</i>	bird	8	BAmb, BD2.1, CITESA, CMS_A2, CMS_AEWA-A2, ScotBL, WCA1i, WO1i
Shoveler	<i>Anas clypeata</i>	bird	9	BAmb, BD2.1, CITESC, CMS_A2, CMS_AEWA-A2, WO1ii
Red-crested Pochard	<i>Netta rufina</i>	bird	1	BD2.2, CMS_A2, CMS_AEWA-A2
Pochard	<i>Aythya ferina</i>	bird	35	BAmb, BD2.1, CMS_A2, CMS_AEWA-A2, ScotBL, WO1ii
Ring-necked Duck	<i>Aythya collaris</i>	bird	2	CMS_A2
Tufted Duck	<i>Aythya fuligula</i>	bird	99	BAmb, BD2.1, CMS_A2, CMS_AEWA-A2
Scaup	<i>Aythya marila</i>	bird	9	BD2.2, BRed, CMS_A2, CMS_AEWA-A2, ScotBL, Sect.41, UKBAP, WCA1i, WO1ii
Smew	<i>Mergellus albellus</i>	bird	11	BAmb, BD1, Bern2, CMS_A2, CMS_AEWA-A2, ScotBL
Ruddy Duck	<i>Oxyura jamaicensis</i>	bird	4	CMS_A2

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Little Egret	<i>Egretta garzetta</i>	bird	307	BAmb, BD1, Bern2, CITESA, CMS_AEWA-A2
Night-heron	<i>Nycticorax nycticorax</i>	bird	3	BD1, Bern2, CMS_AEWA-A2
Great White Egret	<i>Ardea alba</i>	bird	11	Bern2, CITESA, CMS_AEWA-A2
Grey Heron	<i>Ardea cinerea</i>	bird	24	CMS_AEWA-A2, WO1i
Purple Heron	<i>Ardea purpurea</i>	bird	2	BD1, Bern2, CMS_AEWA-A2, WCA1i
Bittern	<i>Botaurus stellaris</i>	bird	57	BD1, Bern2, BRed, CMS_AEWA-A2, FEP7/2, ScotBL, Sect.41, Sect.42, UKBAP, WCA1i, WO1i
White Stork	<i>Ciconia ciconia</i>	bird	12	BD1, Bern2, CMS_A2, CMS_AEWA-A2
Glossy Ibis	<i>Plegadis falcinellus</i>	bird	1	BD1, Bern2, CMS_A2, CMS_AEWA-A2
Spoonbill	<i>Platalea leucorodia</i>	bird	1	BAmb, BD1, Bern2, CITESA, CMS_A2, CMS_AEWA-A2, WCA1i
Grey Partridge	<i>Perdix perdix</i>	bird	64	BD2.1, BRed, FEP7/2, ScotBL, Sect.41, Sect.42, UKBAP
Quail	<i>Coturnix coturnix</i>	bird	9	BAmb, BD2.2, WCA1i, WO1i
Red-throated Diver	<i>Gavia stellata</i>	bird	2	BAmb, BD1, Bern2, CMS_A2, CMS_AEWA-A2, ScotBL, WCA1i, WO1i
Great Northern Diver	<i>Gavia immer</i>	bird	1	BAmb, BD1, Bern2, CMS_AEWA-A2, ScotBL, WCA1i
Little Grebe	<i>Tachybaptus ruficollis</i>	bird	9	BAmb, CMS_AEWA-A2

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Great Crested Grebe	<i>Podiceps cristatus</i>	bird	50	CMS_AEWA-A2
Red-necked Grebe	<i>Podiceps grisegena</i>	bird	7	BAmb, CMS_AEWA-A2, ScotBL
Slavonian Grebe	<i>Podiceps auritus</i>	bird	3	BAmb, BD1, Bern2, CMS_A2, CMS_AEWA-A2, ScotBL, WCA1i
Black-necked Grebe	<i>Podiceps nigricollis</i>	bird	1	BAmb, Bern2, CMS_AEWA-A2, ScotBL, WCA1i, WO1i
Fulmar	<i>Fulmarus glacialis</i>	bird	1	BAmb
Gannet	<i>Morus bassanus</i>	bird	2	BAmb, CMS_AEWA-A2
Cormorant	<i>Phalacrocorax carbo</i>	bird	49	CMS_AEWA-A2
Shag	<i>Phalacrocorax aristotelis</i>	bird	5	BAmb, Bern2
Honey-buzzard	<i>Pernis apivorus</i>	bird	11	BAmb, BD1, CITESA, CMS_A2, ScotBL, WCA1i
Black Kite	<i>Milvus migrans</i>	bird	2	BD1, CITESA, CMS_A2
Red Kite	<i>Milvus milvus</i>	bird	41	BAmb, BD1, CITESA, CMS_A2, FEP7/2, RLGLB.NT, ScotBL, WCA1i
Milvus milvus subsp. milvus	<i>Milvus milvus subsp. milvus</i>	bird	163	BAmb, BD1, CITESA, CMS_A2, FEP7/2, RLGLB.NT, ScotBL, WCA1i
Marsh Harrier	<i>Circus aeruginosus</i>	bird	33	BAmb, BD1, CITESA, CMS_A2, FEP7/2, ScotBL, WCA1i, WO1i
Hen Harrier	<i>Circus cyaneus</i>	bird	2	BD1, BRed, CITESA, CMS_A2, FEP7/2, ScotBL, Sect.41, Sect.42, WCA1i, WO1i
Circus cyaneus subsp. cyaneus	<i>Circus cyaneus subsp. cyaneus</i>	bird	6	BD1, BRed, CITESA, CMS_A2, FEP7/2, ScotBL,

Common Name	Latin Name	Taxon Group	Number of Records	Designation
				Sect.41, Sect.42, WCA1i, WO1i
Goshawk	<i>Accipiter gentilis</i>	bird	10	CITESA, CMS_A2, WCA1i, WO1i
Sparrowhawk	<i>Accipiter nisus</i>	bird	59	CITESA, CMS_A2, WO1i
Buzzard	<i>Buteo buteo</i>	bird	268	CITESA, CMS_A2, WO1i
Rough-legged Buzzard	<i>Buteo lagopus</i>	bird	5	CITESA, CMS_A2
Osprey	<i>Pandion haliaetus</i>	bird	111	BAmb, BD1, CITESA, CMS_A2, ScotBL, WCA1i, WO1i
Kestrel	<i>Falco tinnunculus</i>	bird	35	BAmb, Bern2, CITESA, CMS_A2, FEP7/2, ScotBL, Sect.42, WO1i
Merlin	<i>Falco columbarius</i>	bird	12	BAmb, BD1, Bern2, CITESA, CMS_A2, FEP7/2, ScotBL, WCA1i, WO1i
Hobby	<i>Falco subbuteo</i>	bird	221	Bern2, CITESA, CMS_A2, ScotBL, WCA1i
Peregrine	<i>Falco peregrinus</i>	bird	62	BD1, Bern2, CITESA, CMS_A2, ScotBL, WCA1i, WO1i
Moorhen	<i>Gallinula chloropus</i>	bird	35	BD2.2, CMS_A2, CMS_AEWA-A2
Water Rail	<i>Rallus aquaticus</i>	bird	84	BD2.2, CMS_AEWA-A2
Rallus aquaticus subsp. aquaticus	<i>Rallus aquaticus subsp. aquaticus</i>	bird	1	BD2.2, CMS_AEWA-A2
Coot	<i>Fulica atra</i>	bird	57	BD2.1, CMS_AEWA-A2
Crane	<i>Grus grus</i>	bird	34	BAmb, BD1, Bern2, CITESA, CMS_A2, CMS_AEWA-A2
Oystercatcher	<i>Haematopus ostralegus</i>	bird	115	BAmb, BD2.2, CMS_AEWA-A2

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Little Ringed Plover	<i>Charadrius dubius</i>	bird	72	Bern2, CMS_A2, CMS_AEWA-A2, WCA1i
Ringed Plover	<i>Charadrius hiaticula</i>	bird	2	BAmb, Bern2, CMS_A2, CMS_AEWA-A2, Sect.42
Golden Plover	<i>Pluvialis apricaria</i>	bird	51	BAmb, BD1, BD2.2, CMS_A2, CMS_AEWA-A2, FEP7/2, ScotBL, Sect.42, WO1ii
Lapwing	<i>Vanellus vanellus</i>	bird	70	BD2.2, BRed, CMS_A2, CMS_AEWA-A2, FEP7/2, ScotBL, Sect.41, Sect.42, UKBAP
Avocet	<i>Recurvirostra avosetta</i>	bird	2	BAmb, BD1, Bern2, CMS_A2, CMS_AEWA-A2, FEP7/2, WCA1i
Stone-curlew	<i>Burhinus oediconemus</i>	bird	6	BAmb, BD1, Bern2, Breck_Special, CMS_A2, FEP7/2, Sect.41, UKBAP, WCA1i
Common Sandpiper	<i>Actitis hypoleucos</i>	bird	57	BAmb, CMS_A2, CMS_AEWA-A2
Snipe	<i>Gallinago gallinago</i>	bird	26	BAmb, BD2.1, CMS_A2, CMS_AEWA-A2, FEP7/2
Gallinago gallinago subsp. gallinago	<i>Gallinago gallinago subsp. gallinago</i>	bird	11	BAmb, BD2.1, CMS_A2, CMS_AEWA-A2, FEP7/2
Jack Snipe	<i>Lymnocyptes minimus</i>	bird	30	BAmb, BD2.1, CMS_A2, CMS_AEWA-A2
Whimbrel	<i>Numenius phaeopus</i>	bird	16	BD2.2, BRed, CMS_A2, CMS_AEWA-A2, WCA1i, WO1i
Curlew	<i>Numenius arquata</i>	bird	9	BAmb, BD2.2, CMS_A2, CMS_AEWA-A2, FEP7/2,

Common Name	Latin Name	Taxon Group	Number of Records	Designation
				RLGLB.NT, ScotBL, Sect.41, Sect.42, UKBAP
Woodcock	<i>Scolopax rusticola</i>	bird	92	BAmb, BD2.1, CMS_A2, CMS_AEWA-A2, ScotBL
Sanderling	<i>Calidris alba</i>	bird	1	Bern2, CMS_A2, CMS_AEWA-A2
Dunlin	<i>Calidris alpina</i>	bird	1	Bern2, BRed, CMS_A2, CMS_AEWA-A2, FEP7/2, ScotBL, WO1i
Black-tailed Godwit	<i>Limosa limosa</i>	bird	7	BD2.2, BRed, CMS_A2, CMS_AEWA-A2, FEP7/2, RLGLB.NT, ScotBL, WCA1i, WO1i
Bar-tailed Godwit	<i>Limosa lapponica</i>	bird	5	BAmb, BD1, BD2.2, CMS_A2, CMS_AEWA-A2, ScotBL, Sect.42
Spotted Redshank	<i>Tringa erythropus</i>	bird	2	BAmb, BD2.2, CMS_A2, CMS_AEWA-A2
Redshank	<i>Tringa totanus</i>	bird	9	BAmb, BD2.2, CMS_A2, CMS_AEWA-A2, FEP7/2
Greenshank	<i>Tringa nebularia</i>	bird	6	BD2.2, CMS_A2, CMS_AEWA-A2, WCA1i, WO1i
Green Sandpiper	<i>Tringa ochropus</i>	bird	89	BAmb, Bern2, CMS_A2, CMS_AEWA-A2, ScotBL, WCA1i
Wood Sandpiper	<i>Tringa glareola</i>	bird	7	BAmb, BD1, Bern2, CMS_A2, CMS_AEWA-A2, ScotBL, WCA1i
Arctic Skua	<i>Stercorarius parasiticus</i>	bird	1	BRed, ScotBL, UKBAP
Little Gull	<i>Hydrocoloeus minutus</i>	bird	19	BAmb, BD1, Bern2,

Common Name	Latin Name	Taxon Group	Number of Records	Designation
				CMS_AEWA-A2, WCA1i
Little Tern	<i>Sternula albifrons</i>	bird	2	BAmb, BD1, Bern2, CMS_A2, CMS_AEWA-A2, FEP7/2, ScotBL, WCA1i, WO1i
Mediterranean Gull	<i>Larus melanocephalus</i>	bird	12	BAmb, BD1, Bern2, CMS_A2, CMS_AEWA-A2, WCA1i
Common Gull	<i>Larus canus</i>	bird	8	BAmb, BD2.2, CMS_AEWA-A2
Larus canus subsp. canus	<i>Larus canus subsp. canus</i>	bird	7	BAmb, BD2.2, CMS_AEWA-A2
Lesser Black-backed Gull	<i>Larus fuscus</i>	bird	20	BAmb, BD2.2, CMS_AEWA-A2
British Lesser Black-Backed Gull	<i>Larus fuscus subsp. graellsii</i>	bird	9	BAmb, BD2.2, CMS_AEWA-A2
Yellow-legged Gull	<i>Larus michahellis</i>	bird	9	BAmb
Herring Gull	<i>Larus michahellis subsp. michahellis</i>	bird	2	BAmb
Herring Gull	<i>Larus argentatus</i>	bird	8	BD2.2, BRed, CMS_AEWA-A2, ScotBL
Iceland Gull	<i>Larus glaucoides</i>	bird	1	BAmb, CMS_AEWA-A2
Glaucous Gull	<i>Larus hyperboreus</i>	bird	1	BAmb, CMS_AEWA-A2
Great Black-backed Gull	<i>Larus marinus</i>	bird	3	BAmb, BD2.2, CMS_AEWA-A2
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	bird	32	BAmb, BD2.2, CMS_AEWA-A2, ScotBL, Sect.42
Black Tern	<i>Chlidonias niger</i>	bird	37	BAmb, BD1, Bern2, CMS_AEWA-A2, WCA1i
Sandwich Tern	<i>Sterna sandvicensis</i>	bird	4	BAmb, BD1, Bern2, CMS_AEWA-A2, FEP7/2, ScotBL, WO1i
Common Tern	<i>Sterna hirundo</i>	bird	109	BAmb, BD1, Bern2,

Common Name	Latin Name	Taxon Group	Number of Records	Designation
				CMS_AEWA-A2, ScotBL, WO1i
Arctic Tern	<i>Sterna paradisaea</i>	bird	47	BAmb, BD1, Bern2, CMS_A2, CMS_AEWA-A2, ScotBL, WO1i
Stock Dove	<i>Columba oenas</i>	bird	29	BAmb, BD2.2
Turtle Dove	<i>Streptopelia turtur</i>	bird	127	BD2.2, BRed, CITESA, FEP7/2, ScotBL, Sect.41, Sect.42, UKBAP, WO1i
Cuckoo	<i>Cuculus canorus</i>	bird	209	BRed, Sect.41, Sect.42, UKBAP
Barn Owl	<i>Tyto alba</i>	bird	299	BAmb, Bern2, CITESA, FEP7/2, ScotBL, WCA1i, WO1i
Tyto alba subsp. alba	<i>Tyto alba subsp. alba</i>	bird	1	BAmb, Bern2, CITESA, FEP7/2, ScotBL, WCA1i, WO1i
Eurasian Eagle Owl	<i>Bubo bubo</i>	bird	1	BD1, CITESA
Little Owl	<i>Athene noctua</i>	bird	174	Bern2, CITESA
Tawny Owl	<i>Strix aluco</i>	bird	146	Bern2, CITESA
Long-eared Owl	<i>Asio otus</i>	bird	4	Bern2, CITESA, WO1i
Short-eared Owl	<i>Asio flammeus</i>	bird	10	BAmb, BD1, Bern2, CITESA, FEP7/2, ScotBL, WO1i
Nightjar	<i>Caprimulgus europaeus</i>	bird	6	BD1, Bern2, BRed, FEP7/2, ScotBL, Sect.41, Sect.42, UKBAP, WO1i
Swift	<i>Apus apus</i>	bird	336	BAmb, ScotBL
Kingfisher	<i>Alcedo atthis</i>	bird	277	BAmb, BD1, Bern2, FEP7/2, ScotBL, WCA1i, WO1i
Hoopoe	<i>Upupa epops</i>	bird	1	Bern2, WCA1i
Wryneck	<i>Jynx torquilla</i>	bird	4	Bern2, BRed, ScotBL, UKBAP, WCA1i
Green Woodpecker	<i>Picus viridis</i>	bird	217	BAmb, Bern2

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Great Spotted Woodpecker	<i>Dendrocopos major</i>	bird	86	Bern2
Lesser Spotted Woodpecker	<i>Dendrocopos minor</i>	bird	49	Bern2, BRed, FEP7/2
Cetti's Warbler	<i>Cettia cetti</i>	bird	207	WCA1i
Grasshopper Warbler	<i>Locustella naevia</i>	bird	30	BRed, Sect.41, Sect.42, UKBAP
Wood Warbler	<i>Phylloscopus sibilatrix</i>	bird	1	BRed, ScotBL, Sect.41, Sect.42, UKBAP, WO1i
Willow Warbler	<i>Phylloscopus trochilus</i>	bird	104	BAmb
Woodlark	<i>Lullula arborea</i>	bird	4	BAmb, BD1, Breck_Special, FEP7/2, Sect.41, Sect.42, UKBAP, WCA1i
Skylark	<i>Alauda arvensis</i>	bird	75	BD2.2, BRed, FEP7/2, ScotBL, Sect.41
Shore Lark	<i>Eremophila alpestris</i>	bird	1	BAmb, Bern2, WCA1i
Sand Martin	<i>Riparia riparia</i>	bird	51	BAmb, Bern2
Swallow	<i>Hirundo rustica</i>	bird	97	BAmb, Bern2
House Martin	<i>Delichon urbicum</i>	bird	98	BAmb, Bern2
Red-rumped Swallow	<i>Cecropis daurica</i>	bird	1	Bern2
Tree Pipit	<i>Anthus trivialis</i>	bird	4	Bern2, BRed, Sect.41, Sect.42, UKBAP, WO1i
Meadow Pipit	<i>Anthus pratensis</i>	bird	19	BAmb, Bern2
Rock Pipit	<i>Anthus petrosus</i>	bird	1	Bern2
Water Pipit	<i>Anthus spinoletta</i>	bird	5	BAmb, Bern2
Yellow Wagtail	<i>Motacilla flava</i>	bird	8	Bern2, BRed, FEP7/2, ScotBL, WO1i
Blue-headed Wagtail	<i>Motacilla flava subsp. flava</i>	bird	2	Bern2, BRed, FEP7/2, ScotBL, WO1i
Yellow Wagtail	<i>Motacilla flava subsp. flavissima</i>	bird	2	Bern2, BRed, FEP7/2, ScotBL, Sect.41, Sect.42, UKBAP, WO1i
Grey Wagtail	<i>Motacilla cinerea</i>	bird	377	BAmb, Bern2

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Pied Wagtail	<i>Motacilla alba</i>	bird	39	Bern2
Pied Wagtail	<i>Motacilla alba subsp. yarrellii</i>	bird	41	Bern2
Waxwing	<i>Bombycilla garrulus</i>	bird	395	Bern2
Wren	<i>Troglodytes troglodytes</i>	bird	19	Bern2
Dunnock	<i>Prunella modularis</i>	bird	18	BAmb, Bern2
Robin	<i>Erithacus rubecula</i>	bird	28	Bern2, ScotBL
Nightingale	<i>Luscinia megarhynchos</i>	bird	116	BAmb, Bern2
Black Redstart	<i>Phoenicurus ochruros</i>	bird	13	BAmb, Bern2, WCA1i
Redstart	<i>Phoenicurus phoenicurus</i>	bird	5	BAmb, Bern2, WO1i
Whinchat	<i>Saxicola rubetra</i>	bird	15	BAmb, Bern2
Stonechat	<i>Saxicola rubicola</i>	bird	37	Bern2
Wheatear	<i>Oenanthe oenanthe</i>	bird	45	BAmb, Bern2
Ring Ouzel	<i>Turdus torquatus</i>	bird	28	Bern2, BRed, FEP7/2, ScotBL, Sect.41, Sect.42, UKBAP, WO1i
Fieldfare	<i>Turdus pilaris</i>	bird	111	BD2.2, BRed, WCA1i, WO1i
Song Thrush	<i>Turdus philomelos</i>	bird	95	BD2.2, BRed, FEP7/2, ScotBL
Redwing	<i>Turdus iliacus</i>	bird	138	BD2.2, BRed, ScotBL, WCA1i
Mistle Thrush	<i>Turdus viscivorus</i>	bird	45	BAmb, BD2.2
Spotted Flycatcher	<i>Muscicapa striata</i>	bird	94	Bern2, BRed, CMS_A2, FEP7/2, ScotBL, Sect.41, Sect.42, UKBAP
Pied Flycatcher	<i>Ficedula hypoleuca</i>	bird	4	BAmb, CMS_A2, Sect.42, WO1i
Whitethroat	<i>Sylvia communis</i>	bird	80	BAmb
Bearded Tit	<i>Panurus biarmicus</i>	bird	3	BAmb, Bern2, ScotBL, WCA1i, WO1i
Goldcrest	<i>Regulus regulus</i>	bird	9	Bern2
Firecrest	<i>Regulus ignicapilla</i>	bird	16	BAmb, Bern2, WCA1i, WO1i

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Blue Tit	<i>Cyanistes caeruleus</i>	bird	24	Bern2
Great Tit	<i>Parus major</i>	bird	21	Bern2
Coal Tit	<i>Periparus ater</i>	bird	12	Bern2
Willow Tit	<i>Poecile montana</i>	bird	8	Bern2, BRed, FEP7/2, ScotBL
Marsh Tit	<i>Poecile palustris</i>	bird	147	Bern2, BRed
Nuthatch	<i>Sitta europaea</i>	bird	67	Bern2
Treecreeper	<i>Certhia familiaris</i>	bird	26	Bern2
Golden Oriole	<i>Oriolus oriolus</i>	bird	1	Bern2, BRed, WCA1i
Red-backed Shrike	<i>Lanius collurio</i>	bird	3	BD1, Bern2, BRed, ScotBL, Sect.42, UKBAP, WCA1i
Starling	<i>Sturnus vulgaris</i>	bird	52	BD2.2, BRed, FEP7/2
House Sparrow	<i>Passer domesticus</i>	bird	73	BRed, Sect.41, Sect.42, UKBAP
Tree Sparrow	<i>Passer montanus</i>	bird	29	BRed, FEP7/2, ScotBL, Sect.41, Sect.42, UKBAP
Lesser Redpoll	<i>Acanthis cabaret</i>	bird	97	BRed, Sect.41, Sect.42, UKBAP
Common (Mealy) Redpoll	<i>Acanthis flammea</i>	bird	42	Bern2
Linnet	<i>Linaria cannabina</i>	bird	82	Bern2, BRed, FEP7/2, ScotBL
Twite	<i>Linaria flavirostris</i>	bird	1	Bern2, BRed, FEP7/2, WO1i
Siskin	<i>Spinus spinus</i>	bird	129	Bern2, ScotBL
Brambling	<i>Fringilla montifringilla</i>	bird	79	ScotBL, WCA1i
Serin	<i>Serinus serinus</i>	bird	1	BAmb, Bern2, WCA1i
Greenfinch	<i>Carduelis chloris</i>	bird	4	Bern2
Goldfinch	<i>Carduelis carduelis</i>	bird	49	Bern2
Common Crossbill	<i>Loxia curvirostra</i>	bird	62	Bern2, WCA1i, WO1i
Bullfinch	<i>Pyrrhula pyrrhula</i>	bird	189	BAmb, FEP7/2, ScotBL

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Hawfinch	<i>Coccothraustes coccothraustes</i>	bird	24	Bern2, BRed, ScotBL, Sect.41, Sect.42, UKBAP
Lapland Bunting	<i>Calcarius lapponicus</i>	bird	4	BAmb, Bern2, WCA1i
Snow Bunting	<i>Plectrophenax nivalis</i>	bird	5	BAmb, Bern2, ScotBL, WCA1i
Yellowhammer	<i>Emberiza citrinella</i>	bird	70	Bern2, BRed, FEP7/2, Sect.41, Sect.42, UKBAP
Reed Bunting	<i>Emberiza schoeniclus</i>	bird	51	BAmb, Bern2, FEP7/2, ScotBL, Sect.41, Sect.42, UKBAP
Corn Bunting	<i>Emberiza calandra</i>	bird	3	BRed, FEP7/2, ScotBL, WO1i

Table 13 - Species of Conservation Concern - bony fish

Barbel	<i>Barbus barbus</i>	bony fish (Actinopterygii)	7	HabRegs4, HSD5
Brown/Sea Trout	<i>Salmo trutta</i>	bony fish (Actinopterygii)	2	Sect.41, Sect.42, UKBAP

Table 14 - Species of Conservation Concern - conifer

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Scots Pine	<i>Pinus sylvestris</i>	conifer	6	NS-excludes, ScotBL

Table 15 - Species of Conservation Concern - crustacean

Common Name	Latin Name	Taxon Group	Number of Records	Designation
White-clawed Freshwater Crayfish	<i>Austropotamobius pallipes</i>	crustacean	53	Bern3, FEP7/2, HSD2p, HSD5, RLGLB.EN, ScotBL, Sect.41, Sect.42, UKBAP, WCA5/9.1t, WCA5/9.5a, WCA5/9.5b

Table 16 - Species of Conservation Concern - fern

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Pillwort	<i>Pilularia globulifera</i>	fern	1	FEP7/2, NRPI, NS-excludes, RLGB.Lr(NT), ScotBL, Sect.41, Sect.42, UKBAP, WO8i

Table 17 - Species of Conservation Concern – flowering plants

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Water-soldier	<i>Stratiotes aloides</i>	flowering plant	2	NR-excludes, NRPI, RLGB.Lr(NT)
Fen Pondweed	<i>Potamogeton coloratus</i>	flowering plant	1	NRPI, NS-excludes
Long-stalked Pondweed	<i>Potamogeton praelongus</i>	flowering plant	1	RLGB.Lr(NT)
Opposite-leaved Pondweed	<i>Groenlandia densa</i>	flowering plant	1	NRPI, RLGB.VU
Night-flowering Catchfly	<i>Silene noctiflora</i>	flowering plant	1	FEP7/3, NRPI, RLGB.VU, ScotBL
Hoary Mullein	<i>Verbascum pulverulentum</i>	flowering plant	4	NRPI, NS-excludes
Betony	<i>Stachys officinalis</i>	flowering plant	1	NRPI, WO8i
Basil Thyme	<i>Clinopodium acinos</i>	flowering plant	3	NRPI, RLGB.VU, ScotBL, Sect.41, Sect.42, UKBAP
Hoary Cinquefoil	<i>Potentilla argentea</i>	flowering plant	1	NRPI, RLGB.Lr(NT), ScotBL
Large Yellow-sedge	<i>Carex flava</i>	flowering plant	6	NR-excludes, RLGB.VU
Mossy Stonecrop	<i>Crassula tillaea</i>	flowering plant	1	NRPI, NS-excludes
Tower Mustard	<i>Arabis glabra</i>	flowering plant	1	Breck_Special, FEP7/2, NRPI, NS-excludes, RLGB.EN, Sect.41, UKBAP
Bluebell	<i>Hyacinthoides non-scripta</i>	flowering plant	3	ScotBL, WCA8
Creeping Spearwort	<i>Ranunculus reptans</i>	flowering plant	1	NR-excludes, RLGB.VU, ScotBL
Purple Milk-vetch	<i>Astragalus danicus</i>	flowering plant	1	NRPI, RLGB.EN, Sect.41, UKBAP

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Sickle Medick	<i>Medicago sativa subsp. falcata</i>	flowering plant	1	Breck_Special, NRPI, NS-excludes
Clustered Clover	<i>Trifolium glomeratum</i>	flowering plant	2	NRPI, NS-excludes
Marsh Gentian	<i>Gentiana pneumonanthe</i>	flowering plant	2	NRPI, NS-excludes
Smooth Cat's-ear	<i>Hypochaeris glabra</i>	flowering plant	1	NRPI, RLGB.VU, ScotBL, WO8i
Rough Hawk's-beard	<i>Crepis biennis</i>	flowering plant	1	NRPI
Common Cudweed	<i>Filago vulgaris</i>	flowering plant	7	NRPI, RLGB.Lr(NT), ScotBL
Tubular Water-dropwort	<i>Oenanthe fistulosa</i>	flowering plant	8	NRPI, RLGB.VU, ScotBL, Sect.41, Sect.42, UKBAP
Lesser Marshwort	<i>Apium inundatum</i>	flowering plant	1	NRPI
Hound's-tongue	<i>Cynoglossum officinale</i>	flowering plant	2	NRPI, RLGB.Lr(NT)

Table 18 - Species of Conservation Concern - fungus

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Sandy Stiltball	<i>Battarrea phalloides</i>	fungus	21	Sect.41, UKBAP, WCA8
Brown Birch Bolete	<i>Leccinum scabrum</i>	fungus	3	RLGB.DD

Table 19 - Species of Conservation Concern - insect

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Norfolk Hawker	<i>Anaciaeschna isoceles</i>	insect - dragonfly (Odonata)	1	FEP7/2, RLGB.EN, Sect.41, UKBAP, WCA5/9.1k/l, WCA5/9.1t, WCA5/9.2, WCA5/9.4.a, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b
lassus scutellaris	<i>lassus scutellaris</i>	insect - true bug (Hemiptera)	1	Na
Arenocoris falleni	<i>Arenocoris falleni</i>	insect - true bug (Hemiptera)	1	Breck_Special

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Graptopeltus lynceus	<i>Graptopeltus lynceus</i>	insect - true bug (Hemiptera)	2	Breck_Special, Nb
Oodes helopioides	<i>Oodes helopioides</i>	insect - beetle (Coleoptera)	3	Nb
Dorytomus salicinus	<i>Dorytomus salicinus</i>	insect - beetle (Coleoptera)	1	Nb
Ceutorhynchus constrictus	<i>Ceutorhynchus constrictus</i>	insect - beetle (Coleoptera)	1	Nb
Agabus (Agabus) uliginosus	<i>Agabus (Agabus) uliginosus</i>	insect - beetle (Coleoptera)	1	Nb, RLGB.Lr(NT), ScotBL
Agabus (Gaurodytes) striolatus	<i>Agabus (Gaurodytes) striolatus</i>	insect - beetle (Coleoptera)	21	RDBGB.VU, RLGB.VU
Hydroporus glabriusculus	<i>Hydroporus glabriusculus</i>	insect - beetle (Coleoptera)	7	RLGB.VU, ScotBL
Hydroporus neglectus	<i>Hydroporus neglectus</i>	insect - beetle (Coleoptera)	3	NS-excludes
Hygrotus (Hygrotus) decoratus	<i>Hygrotus (Hygrotus) decoratus</i>	insect - beetle (Coleoptera)	2	Nb, NS-excludes
Laccornis oblongus	<i>Laccornis oblongus</i>	insect - beetle (Coleoptera)	9	RLGB.Lr(NT)
Hydrochus brevis	<i>Hydrochus brevis</i>	insect - beetle (Coleoptera)	12	RLGB.Lr(NT), ScotBL
Hydrochus crenatus	<i>Hydrochus crenatus</i>	insect - beetle (Coleoptera)	2	RLGB.Lr(NT)
Chaetarthria seminulum	<i>Chaetarthria seminulum s. lat.</i>	insect - beetle (Coleoptera)	2	NS-excludes
Enochrus nigrinus	<i>Enochrus nigrinus</i>	insect - beetle (Coleoptera)	5	Breck_Special, RLGB.Lr(NT)
Enochrus quadripunctatus	<i>Enochrus quadripunctatus</i>	insect - beetle (Coleoptera)	2	Breck_Special, NS-excludes, ScotBL
Hydraena palustris	<i>Hydraena palustris</i>	insect - beetle (Coleoptera)	6	Breck_Special, RLGB.Lr(NT)
Two-Spot Wood-Borer	<i>Agilus (Anambus) biguttatus</i>	insect - beetle (Coleoptera)	1	Na
Abdera biflexuosa	<i>Abdera biflexuosa</i>	insect - beetle (Coleoptera)	1	Nb
Abdera quadrifasciata	<i>Abdera quadrifasciata</i>	insect - beetle (Coleoptera)	1	Na
Phloiotrya vaudoueri	<i>Phloiotrya vaudoueri</i>	insect - beetle (Coleoptera)	1	Nb
Eledona agricola	<i>Eledona agricola</i>	insect - beetle (Coleoptera)	1	Nb

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Prionychus ater	<i>Prionychus ater</i>	insect - beetle (Coleoptera)	1	Nb
Tanner Beetle	<i>Prionus coriarius</i>	insect - beetle (Coleoptera)	4	Na
Lime Beetle	<i>Stenostola dubia</i>	insect - beetle (Coleoptera)	1	Nb
Phytoecia cylindrica	<i>Phytoecia cylindrica</i>	insect - beetle (Coleoptera)	1	Nb
Longitarsus dorsalis	<i>Longitarsus dorsalis</i>	insect - beetle (Coleoptera)	1	Nb
Ghost Moth	<i>Hepialus humuli</i>	insect - moth	89	Sect.41, Sect.42, UKBAP
Ghost Moth	<i>Hepialus humuli subsp. humuli</i>	insect - moth	1	Sect.41, Sect.42, UKBAP
Horehound Long-horn	<i>Nemophora fasciella</i>	insect - moth	3	Sect.41, UKBAP
Oak Hook-tip	<i>Watsonalla binaria</i>	insect - moth	100	Sect.41, Sect.42, UKBAP
Dotted Ermel	<i>Ethmia dodecea</i>	insect - moth	1	Nb
Alder Signal	<i>Stathmopoda pedella</i>	insect - moth	5	Nb
Wainscot Neb	<i>Monochroa palustrellus</i>	insect - moth	2	Nb
Brindled Beauty	<i>Lycia hirtaria</i>	insect - moth	143	Sect.41, Sect.42, UKBAP
August Thorn	<i>Ennomos quercinaria</i>	insect - moth	66	Sect.41, Sect.42, UKBAP
Dusky Thorn	<i>Ennomos fuscantaria</i>	insect - moth	154	Sect.41, Sect.42, UKBAP
September Thorn	<i>Ennomos erosaria</i>	insect - moth	1	Sect.41, Sect.42, UKBAP
V-Moth	<i>Macaria wauaria</i>	insect - moth	2	Sect.41, Sect.42, UKBAP
Latticed Heath	<i>Chiasmia clathrata</i>	insect - moth	86	Sect.41, Sect.42, UKBAP
Small Emerald	<i>Hemistola chrysoprasaria</i>	insect - moth	45	Sect.41, Sect.42, UKBAP
Streak	<i>Chesias legatella</i>	insect - moth	11	Sect.41, Sect.42, UKBAP
Grey Carpet	<i>Lithostege griseata</i>	insect - moth	1	Breck_Special, RDBG.B.R, Sect.41, UKBAP

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Spinach	<i>Eulithis mellinata</i>	insect - moth	31	Sect.41, Sect.42, UKBAP
Small Phoenix	<i>Ecliptopera silaceata</i>	insect - moth	117	Sect.41, Sect.42, UKBAP
Dark Spinach	<i>Pelurga comitata</i>	insect - moth	18	Sect.41, Sect.42, UKBAP
Pretty Chalk Carpet	<i>Melanthia procellata</i>	insect - moth	7	Sect.41, Sect.42, UKBAP
Oblique Carpet	<i>Orthonama vittata</i>	insect - moth	3	Sect.41, Sect.42, UKBAP
Dark-barred Twin-spot Carpet	<i>Xanthorhoe ferrugata</i>	insect - moth	122	Sect.41, Sect.42, UKBAP
Shaded Broad-bar	<i>Scotopteryx chenopodiata</i>	insect - moth	121	Sect.41, Sect.42, UKBAP
Galium Carpet	<i>Epirrhoe galiata</i>	insect - moth	4	Sect.41, Sect.42, UKBAP
Mullein Wave	<i>Scopula marginepunctata</i>	insect - moth	3	Sect.41, Sect.42, UKBAP
Blood-Vein	<i>Timandra comae</i>	insect - moth	210	Sect.41, Sect.42, UKBAP
Lackey	<i>Malacosoma neustria</i>	insect - moth	1	Sect.41, Sect.42, UKBAP
Pale Eggar	<i>Trichiura crataegi</i>	insect - moth	9	Sect.41, Sect.42, UKBAP
Grey Dagger	<i>Acronicta psi</i>	insect - moth	114	Sect.41, Sect.42, UKBAP
Knot Grass	<i>Acronicta rumicis</i>	insect - moth	95	Sect.41, Sect.42, UKBAP
Mouse Moth	<i>Amphipyra tragopoginis</i>	insect - moth	328	Sect.41, Sect.42, UKBAP
Pale Shining Brown	<i>Polia bombycina</i>	insect - moth	2	Sect.41, Sect.42, UKBAP
Dot Moth	<i>Melanchnra persicariae</i>	insect - moth	502	Sect.41, Sect.42, UKBAP
Broom Moth	<i>Ceramica pisi</i>	insect - moth	16	Sect.41, Sect.42, UKBAP
Shoulder-striped Wainscot	<i>Leucania comma</i>	insect - moth	68	Sect.41, Sect.42, UKBAP
Powdered Quaker	<i>Orthosia gracilis</i>	insect - moth	95	Sect.41, Sect.42, UKBAP
Hedge Rustic	<i>Tholera cespitis</i>	insect - moth	2	Sect.41, Sect.42, UKBAP

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Feathered Gothic	<i>Tholera decimalis</i>	insect - moth	23	Sect.41, Sect.42, UKBAP
Marbled Clover	<i>Heliothis viriplaca</i>	insect - moth	2	Breck_Special, RDBGB.R
White-line Dart	<i>Euxoa tritici</i>	insect - moth	98	Sect.41, Sect.42, UKBAP
Garden Dart	<i>Euxoa nigricans</i>	insect - moth	18	Sect.41, Sect.42, UKBAP
Lunar Yellow Underwing	<i>Noctua orbona</i>	insect - moth	21	Breck_Special, FEP7/2, ScotBL, Sect.41, Sect.42, UKBAP
Double Dart	<i>Graphiphora augur</i>	insect - moth	3	Sect.41, Sect.42, UKBAP
Autumnal Rustic	<i>Eugnorisma glareosa</i>	insect - moth	4	Sect.41, Sect.42, UKBAP
Small Square-spot	<i>Diarsia rubi</i>	insect - moth	235	Sect.41, Sect.42, UKBAP
Heath Rustic	<i>Xestia agathina</i>	insect - moth	1	Sect.41, Sect.42, UKBAP
Sprawler	<i>Asteroscopus sphinx</i>	insect - moth	49	Sect.41, Sect.42, UKBAP
Green-brindled Crescent	<i>Allophyes oxyacanthae</i>	insect - moth	190	Sect.41, Sect.42, UKBAP
Rosy Minor	<i>Litoligia literosa</i>	insect - moth	27	Sect.41, Sect.42, UKBAP
Dusky Brocade	<i>Apamea remissa</i>	insect - moth	48	Sect.41, Sect.42, UKBAP
Large Nutmeg	<i>Apamea anceps</i>	insect - moth	31	Sect.41, Sect.42, UKBAP
Ear Moth	<i>Amphipoea oculea</i>	insect - moth	39	Sect.41, Sect.42, UKBAP
Rosy Rustic	<i>Hydraecia micacea</i>	insect - moth	240	Sect.41, Sect.42, UKBAP
Crescent	<i>Celaena leucostigma</i>	insect - moth	10	Sect.41, Sect.42, UKBAP
Large Wainscot	<i>Rhizedra lutosa</i>	insect - moth	102	Sect.41, Sect.42, UKBAP
Rustic	<i>Hoplodrina blanda</i>	insect - moth	496	Sect.41, Sect.42, UKBAP
Mottled Rustic	<i>Caradrina morpheus</i>	insect - moth	586	Sect.41, Sect.42, UKBAP
Sallow	<i>Cirrhia icteritia</i>	insect - moth	156	Sect.41, Sect.42, UKBAP

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Dusky-lemon Sallow	<i>Cirrhia gilvago</i>	insect - moth	4	Sect.41, Sect.42, UKBAP
Minor Shoulder-knot	<i>Brachylomia viminalis</i>	insect - moth	2	Sect.41, Sect.42, UKBAP
Deep-brown Dart	<i>Aporophyla lutulenta</i>	insect - moth	2	Sect.41, Sect.42, UKBAP
Dark Brocade	<i>Mniotype adusta</i>	insect - moth	12	Sect.41, Sect.42, UKBAP
Beaded Chestnut	<i>Agrochola lychnidis</i>	insect - moth	226	Sect.41, Sect.42, UKBAP
Flounced Chestnut	<i>Agrochola helvola</i>	insect - moth	4	Sect.41, Sect.42, UKBAP
Brown-spot Pinion	<i>Agrochola litura</i>	insect - moth	136	Sect.41, Sect.42, UKBAP
Centre-barred Sallow	<i>Atethmia centrago</i>	insect - moth	145	Sect.41, Sect.42, UKBAP
Bordered Gothic	<i>Heliophobus reticulata subsp. marginosa</i>	insect - moth	1	Breck_Special, Sect.41, Sect.42, UKBAP
Garden Tiger	<i>Arctia caja</i>	insect - moth	8	Sect.41, Sect.42, UKBAP
White Ermine	<i>Spilosoma lubricipeda</i>	insect - moth	282	Sect.41, Sect.42, UKBAP
Buff Ermine	<i>Spilosoma lutea</i>	insect - moth	547	Sect.41, Sect.42, UKBAP
Cinnabar	<i>Tyria jacobaeae</i>	insect - moth	241	Sect.41, Sect.42, UKBAP
Silver-studded Blue	<i>Plebejus argus</i>	insect - butterfly	17	FEP7/2, RLGB.VU, Sect.41, Sect.42, UKBAP, WCA5/9.5a, WCA5/9.5b
White-letter Hairstreak	<i>Satyrium w-album</i>	insect - butterfly	2	RLGB.EN, Sect.41, Sect.42, UKBAP, WCA5/9.5a, WCA5/9.5b
White Admiral	<i>Limenitis camilla</i>	insect - butterfly	6	RLGB.VU, Sect.41, Sect.42, UKBAP
Small Heath	<i>Coenonympha pamphilus</i>	insect - butterfly	5	RLGB.Lr(NT), Sect.41, Sect.42, UKBAP
Wall	<i>Lasiommata megera</i>	insect - butterfly	19	RLGB.Lr(NT), Sect.41, Sect.42, UKBAP

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Breckland Plume	<i>Crombrugghia distans</i>	insect - moth	24	Breck_Special
Bulrush Veneer	<i>Calamotropha paludella</i>	insect - moth	9	Nb
Marsh Grass-veneer	<i>Crambus uliginosellus</i>	insect - moth	4	Nb
Dark Grass-veneer	<i>Crambus hamella</i>	insect - moth	4	Nb
Waste Grass-veneer	<i>Pediasia contaminella</i>	insect - moth	4	Nb
Little Grass-veneer	<i>Platytes cerussella</i>	insect - moth	17	Breck_Special
Marbled Yellow Pearl	<i>Evergestis extimalis</i>	insect - moth	1	Breck_Special, Nb
Giant Water-veneer	<i>Schoenobius gigantella</i>	insect - moth	7	Nb
Sulphur Pearl	<i>Sitochroa palealis</i>	insect - moth	1	N
Orange-rayed Pearl	<i>Nascia ciliaris</i>	insect - moth	9	Na
Pied Grey	<i>Eudonia delunella</i>	insect - moth	1	Nb
Spindle Knot-horn	<i>Nephoterix angustella</i>	insect - moth	6	Nb
Large Clouded Knot-horn	<i>Homoeosoma nebulella</i>	insect - moth	2	Nb
Agathomyia falleni	<i>Agathomyia falleni</i>	insect - true fly (Diptera)	1	NS-excludes
Brachyopa insensilis	<i>Brachyopa insensilis</i>	insect - true fly (Diptera)	1	N, ScotBL
Criorhina ranunculi	<i>Criorhina ranunculi</i>	insect - true fly (Diptera)	2	N
Didea fasciata	<i>Didea fasciata</i>	insect - true fly (Diptera)	5	N
Epistrophe diaphana	<i>Epistrophe diaphana</i>	insect - true fly (Diptera)	1	N
Volucella inanis	<i>Volucella inanis</i>	Insect - Hoverflies	1	N
Volucella inanis	<i>Volucella inanis</i>	insect - true fly (Diptera)	41	N
Volucella inflata	<i>Volucella inflata</i>	insect - true fly (Diptera)	2	N
Volucella zonaria	<i>Volucella zonaria</i>	Insect - Hoverflies	3	N
Volucella zonaria	<i>Volucella zonaria</i>	insect - true fly (Diptera)	35	N
Xanthandrus comtus	<i>Xanthandrus comtus</i>	insect - true fly (Diptera)	1	N

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Leopoldius signatus	<i>Leopoldius signatus</i>	insect - true fly (Diptera)	3	N
Chrysis illigeri	<i>Chrysis illigeri</i>	insect - hymenopteran	1	Nb
Priocnemis (Priocnemis) hyalinata	<i>Priocnemis (Priocnemis) hyalinata</i>	insect - hymenopteran	1	Nb
Arachnospila (Anoplochaeres) minutula	<i>Arachnospila (Anoplochaeres) minutula</i>	insect - hymenopteran	1	Nb
Dolichovespula (Dolichovespula) media	<i>Dolichovespula (Dolichovespula) media</i>	insect - hymenopteran	1	Na
Ectemnius (Clytochrysus) sexcinctus	<i>Ectemnius (Clytochrysus) sexcinctus</i>	insect - hymenopteran	1	Nb
Small Spurred Digger Wasp	<i>Nysson dimidiatus</i>	insect - hymenopteran	1	Nb
Argogorytes fargeii	<i>Argogorytes fargeii</i>	insect - hymenopteran	1	Na
Five-banded Weevil-wasp	<i>Cerceris quinquefasciata</i>	insect - hymenopteran	10	Breck_Special, FEP7/2, RDBG.B.R, Sect.41, UKBAP
Large Yellow-Faced Bee	<i>Hylaeus (Prosopis) signatus</i>	insect - hymenopteran	11	Nb
Hylaeus (Abrupta) cornutus	<i>Hylaeus (Abrupta) cornutus</i>	insect - hymenopteran	6	Na
Andrena (Plastandrena) bimaculata	<i>Andrena (Plastandrena) bimaculata</i>	insect - hymenopteran	5	Nb
Andrena (Plastandrena) tibialis	<i>Andrena (Plastandrena) tibialis</i>	insect - hymenopteran	1	Na
Tormentil Mining Bee	<i>Andrena (Poliandrena) tarsata</i>	insect - hymenopteran	1	Sect.41, Sect.42, UKBAP
Andrena (Chlorandrena) humilis	<i>Andrena (Chlorandrena) humilis</i>	insect - hymenopteran	2	Nb
Lasioglossum (Evylaeus) pauxillum	<i>Lasioglossum (Evylaeus) pauxillum</i>	insect - hymenopteran	5	Na
Two-coloured Mason Bee	<i>Osmia (Neosmia) bicolor</i>	insect - hymenopteran	1	Nb

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Nomada fucata	<i>Nomada fucata</i>	insect - hymenopteran	2	Na
Hill Cuckoo Bee	<i>Bombus (Psithyrus) rupestris</i>	insect - hymenopteran	2	Nb
Red-shanked Carder-bee	<i>Bombus (Thoracobombus) ruderarius</i>	insect - hymenopteran	3	ScotBL, Sect.41, Sect.42, UKBAP
Crescent	<i>Celaena leucostigma</i>	insect - moth	10	Sect.41, Sect.42, UKBAP
Large Wainscot	<i>Rhizedra lutosa</i>	insect - moth	102	Sect.41, Sect.42, UKBAP
Rustic	<i>Hoplodrina blanda</i>	insect - moth	496	Sect.41, Sect.42, UKBAP
Mottled Rustic	<i>Caradrina morpheus</i>	insect - moth	586	Sect.41, Sect.42, UKBAP
Sallow	<i>Cirrhia icteritia</i>	insect - moth	156	Sect.41, Sect.42, UKBAP
Dusky-lemon Sallow	<i>Cirrhia gilvago</i>	insect - moth	4	Sect.41, Sect.42, UKBAP
Minor Shoulder-knot	<i>Brachylomia viminalis</i>	insect - moth	2	Sect.41, Sect.42, UKBAP
Deep-brown Dart	<i>Aporophyla lutulenta</i>	insect - moth	2	Sect.41, Sect.42, UKBAP
Dark Brocade	<i>Mniotype adusta</i>	insect - moth	12	Sect.41, Sect.42, UKBAP
Beaded Chestnut	<i>Agrochola lychnidis</i>	insect - moth	226	Sect.41, Sect.42, UKBAP
Flounced Chestnut	<i>Agrochola helvola</i>	insect - moth	4	Sect.41, Sect.42, UKBAP
Brown-spot Pinion	<i>Agrochola litura</i>	insect - moth	136	Sect.41, Sect.42, UKBAP
Centre-barred Sallow	<i>Atethmia centrago</i>	insect - moth	145	Sect.41, Sect.42, UKBAP
Bordered Gothic	<i>Heliophobus reticulata subsp. marginosa</i>	insect - moth	1	Breck_Special, Sect.41, Sect.42, UKBAP
Garden Tiger	<i>Arctia caja</i>	insect - moth	8	Sect.41, Sect.42, UKBAP
White Ermine	<i>Spilosoma lubricipeda</i>	insect - moth	282	Sect.41, Sect.42, UKBAP
Buff Ermine	<i>Spilosoma lutea</i>	insect - moth	547	Sect.41, Sect.42, UKBAP

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Cinnabar	<i>Tyria jacobaeae</i>	insect - moth	241	Sect.41, Sect.42, UKBAP
Silver-studded Blue	<i>Plebejus argus</i>	insect - butterfly	17	FEP7/2, RLGB.VU, Sect.41, Sect.42, UKBAP, WCA5/9.5a, WCA5/9.5b
White-letter Hairstreak	<i>Satyrrium w-album</i>	insect - butterfly	2	RLGB.EN, Sect.41, Sect.42, UKBAP, WCA5/9.5a, WCA5/9.5b
White Admiral	<i>Limenitis camilla</i>	insect - butterfly	6	RLGB.VU, Sect.41, Sect.42, UKBAP
Small Heath	<i>Coenonympha pamphilus</i>	insect - butterfly	5	RLGB.Lr(NT), Sect.41, Sect.42, UKBAP
Wall	<i>Lasiommata megera</i>	insect - butterfly	19	RLGB.Lr(NT), Sect.41, Sect.42, UKBAP
Breckland Plume	<i>Crombrugghia distans</i>	insect - moth	24	Breck_Special
Bulrush Veneer	<i>Calamotropha paludella</i>	insect - moth	9	Nb
Marsh Grass-veneer	<i>Crambus uliginosellus</i>	insect - moth	4	Nb
Dark Grass-veneer	<i>Crambus hamella</i>	insect - moth	4	Nb
Waste Grass-veneer	<i>Pediasia contaminella</i>	insect - moth	4	Nb
Little Grass-veneer	<i>Platytes cerussella</i>	insect - moth	17	Breck_Special
Marbled Yellow Pearl	<i>Evergestis extimalis</i>	insect - moth	1	Breck_Special, Nb
Giant Water-veneer	<i>Schoenobius gigantella</i>	insect - moth	7	Nb
Sulphur Pearl	<i>Sitochroa palealis</i>	insect - moth	1	N
Orange-rayed Pearl	<i>Nascia ciliialis</i>	insect - moth	9	Na
Pied Grey	<i>Eudonia delunella</i>	insect - moth	1	Nb
Spindle Knot-horn	<i>Nephopterix angustella</i>	insect - moth	6	Nb
Large Clouded Knot-horn	<i>Homoeosoma nebulella</i>	insect - moth	2	Nb
Agathomyia falleni	<i>Agathomyia falleni</i>	insect - true fly (Diptera)	1	NS-excludes

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Brachyopa insensilis	<i>Brachyopa insensilis</i>	insect - true fly (Diptera)	1	N, ScotBL
Criorhina ranunculi	<i>Criorhina ranunculi</i>	insect - true fly (Diptera)	2	N
Didea fasciata	<i>Didea fasciata</i>	insect - true fly (Diptera)	5	N
Epistrophe diaphana	<i>Epistrophe diaphana</i>	insect - true fly (Diptera)	1	N
Volucella inanis	<i>Volucella inanis</i>	Insect - Hoverflies	1	N
Volucella inanis	<i>Volucella inanis</i>	insect - true fly (Diptera)	41	N
Volucella inflata	<i>Volucella inflata</i>	insect - true fly (Diptera)	2	N
Volucella zonaria	<i>Volucella zonaria</i>	Insect - Hoverflies	3	N
Volucella zonaria	<i>Volucella zonaria</i>	insect - true fly (Diptera)	35	N
Xanthandrus comtus	<i>Xanthandrus comtus</i>	insect - true fly (Diptera)	1	N
Leopoldius signatus	<i>Leopoldius signatus</i>	insect - true fly (Diptera)	3	N
Chrysis illigeri	<i>Chrysis illigeri</i>	insect - hymenopteran	1	Nb
Priocnemis (Priocnemis) hyalinata	<i>Priocnemis (Priocnemis) hyalinata</i>	insect - hymenopteran	1	Nb
Arachnospila (Anoplochares) minutula	<i>Arachnospila (Anoplochares) minutula</i>	insect - hymenopteran	1	Nb
Dolichovespula (Dolichovespula) media	<i>Dolichovespula (Dolichovespula) media</i>	insect - hymenopteran	1	Na
Ectemnius (Clytochrysus) sexcinctus	<i>Ectemnius (Clytochrysus) sexcinctus</i>	insect - hymenopteran	1	Nb
Small Spurred Digger Wasp	<i>Nyssus dimidiatus</i>	insect - hymenopteran	1	Nb
Argogorytes fargeii	<i>Argogorytes fargeii</i>	insect - hymenopteran	1	Na
Five-banded Weevil-wasp	<i>Cerceris quinquefasciata</i>	insect - hymenopteran	10	Breck_Special, FEP7/2, RDBG.B.R, Sect.41, UKBAP
Large Yellow-Faced Bee	<i>Hylaeus (Prosopis) signatus</i>	insect - hymenopteran	11	Nb

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Hylaeus (Abrupta) cornutus	<i>Hylaeus (Abrupta) cornutus</i>	insect - hymenopteran	6	Na
Andrena (Plastandrena) bimaculata	<i>Andrena (Plastandrena) bimaculata</i>	insect - hymenopteran	5	Nb
Andrena (Plastandrena) tibialis	<i>Andrena (Plastandrena) tibialis</i>	insect - hymenopteran	1	Na
Tormentil Mining Bee	<i>Andrena (Poliandrena) tarsata</i>	insect - hymenopteran	1	Sect.41, Sect.42, UKBAP
Andrena (Chlorandrena) humilis	<i>Andrena (Chlorandrena) humilis</i>	insect - hymenopteran	2	Nb
Lasioglossum (Evylaeus) pauxillum	<i>Lasioglossum (Evylaeus) pauxillum</i>	insect - hymenopteran	5	Na
Two-coloured Mason Bee	<i>Osmia (Neosmia) bicolor</i>	insect - hymenopteran	1	Nb
Nomada fucata	<i>Nomada fucata</i>	insect - hymenopteran	2	Na
Hill Cuckoo Bee	<i>Bombus (Psithyrus) rupestris</i>	insect - hymenopteran	2	Nb
Red-shanked Carder-bee	<i>Bombus (Thoracobombus) ruderarius</i>	insect - hymenopteran	3	ScotBL, Sect.41, Sect.42, UKBAP
Little Grass-veneer	<i>Platytes cerussella</i>	insect - moth	17	Breck_Special
Marbled Yellow Pearl	<i>Evergestis extimalis</i>	insect - moth	1	Breck_Special, Nb
Giant Water-veneer	<i>Schoenobius gigantella</i>	insect - moth	7	Nb
Sulphur Pearl	<i>Sitochroa palealis</i>	insect - moth	1	N
Orange-rayed Pearl	<i>Nascia cilialis</i>	insect - moth	9	Na
Pied Grey	<i>Eudonia delunella</i>	insect - moth	1	Nb
Spindle Knot-horn	<i>Nephoterix angustella</i>	insect - moth	6	Nb
Large Clouded Knot-horn	<i>Homoeosoma nebulella</i>	insect - moth	2	Nb
Agathomyia falleni	<i>Agathomyia falleni</i>	insect - true fly (Diptera)	1	NS-excludes
Brachyopa insensilis	<i>Brachyopa insensilis</i>	insect - true fly (Diptera)	1	N, ScotBL

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Criorhina ranunculi	<i>Criorhina ranunculi</i>	insect - true fly (Diptera)	2	N
Didea fasciata	<i>Didea fasciata</i>	insect - true fly (Diptera)	5	N
Epistrophe diaphana	<i>Epistrophe diaphana</i>	insect - true fly (Diptera)	1	N
Volucella inanis	<i>Volucella inanis</i>	Insect - Hoverflies	1	N
Volucella inanis	<i>Volucella inanis</i>	insect - true fly (Diptera)	41	N
Volucella inflata	<i>Volucella inflata</i>	insect - true fly (Diptera)	2	N
Volucella zonaria	<i>Volucella zonaria</i>	Insect - Hoverflies	3	N
Volucella zonaria	<i>Volucella zonaria</i>	insect - true fly (Diptera)	35	N
Xanthandrus comtus	<i>Xanthandrus comtus</i>	insect - true fly (Diptera)	1	N
Leopoldius signatus	<i>Leopoldius signatus</i>	insect - true fly (Diptera)	3	N
Chrysis illigeri	<i>Chrysis illigeri</i>	insect - hymenopteran	1	Nb
Priocnemis (Priocnemis) hyalinata	<i>Priocnemis (Priocnemis) hyalinata</i>	insect - hymenopteran	1	Nb
Arachnospila (Anoplochaeres) minutula	<i>Arachnospila (Anoplochaeres) minutula</i>	insect - hymenopteran	1	Nb
Dolichovespula (Dolichovespula) media	<i>Dolichovespula (Dolichovespula) media</i>	insect - hymenopteran	1	Na
Ectemnius (Clytochrysus) sexcinctus	<i>Ectemnius (Clytochrysus) sexcinctus</i>	insect - hymenopteran	1	Nb
Small Spurred Digger Wasp	<i>Nysson dimidiatus</i>	insect - hymenopteran	1	Nb
Argogorytes fargeii	<i>Argogorytes fargeii</i>	insect - hymenopteran	1	Na
Five-banded Weevil-wasp	<i>Cerceris quinquefasciata</i>	insect - hymenopteran	10	Breck_Special, FEP7/2, RDBG.B.R, Sect.41, UKBAP
Large Yellow-Faced Bee	<i>Hylaeus (Prosopis) signatus</i>	insect - hymenopteran	11	Nb
Hylaeus (Abrupta) cornutus	<i>Hylaeus (Abrupta) cornutus</i>	insect - hymenopteran	6	Na

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Andrena (Plastandrena) bimaculata	<i>Andrena (Plastandrena) bimaculata</i>	insect - hymenopteran	5	Nb
Andrena (Plastandrena) tibialis	<i>Andrena (Plastandrena) tibialis</i>	insect - hymenopteran	1	Na
Tormentil Mining Bee	<i>Andrena (Poliandrena) tarsata</i>	insect - hymenopteran	1	Sect.41, Sect.42, UKBAP
Andrena (Chlorandrena) humilis	<i>Andrena (Chlorandrena) humilis</i>	insect - hymenopteran	2	Nb
Lasioglossum (Evylaeus) pauxillum	<i>Lasioglossum (Evylaeus) pauxillum</i>	insect - hymenopteran	5	Na
Two-coloured Mason Bee	<i>Osmia (Neosmia) bicolor</i>	insect - hymenopteran	1	Nb
Nomada fucata	<i>Nomada fucata</i>	insect - hymenopteran	2	Na
Hill Cuckoo Bee	<i>Bombus (Psithyrus) rupestris</i>	insect - hymenopteran	2	Nb
Red-shanked Carder-bee	<i>Bombus (Thoracobombus) ruderarius</i>	insect - hymenopteran	3	ScotBL, Sect.41, Sect.42, UKBAP
Little Grass-veneer	<i>Platytes cerussella</i>	insect - moth	17	Breck_Special
Marbled Yellow Pearl	<i>Evergestis extimalis</i>	insect - moth	1	Breck_Special, Nb
Giant Water-veneer	<i>Schoenobius gigantella</i>	insect - moth	7	Nb
Sulphur Pearl	<i>Sitochroa palealis</i>	insect - moth	1	N
Orange-rayed Pearl	<i>Nascia ciliaris</i>	insect - moth	9	Na
Pied Grey	<i>Eudonia delunella</i>	insect - moth	1	Nb
Spindle Knot-horn	<i>Nephoterix angustella</i>	insect - moth	6	Nb
Large Clouded Knot-horn	<i>Homoeosoma nebulella</i>	insect - moth	2	Nb
Agathomyia falleni	<i>Agathomyia falleni</i>	insect - true fly (Diptera)	1	NS-excludes
Brachyopa insensilis	<i>Brachyopa insensilis</i>	insect - true fly (Diptera)	1	N, ScotBL
Criorhina ranunculi	<i>Criorhina ranunculi</i>	insect - true fly (Diptera)	2	N

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Didea fasciata	<i>Didea fasciata</i>	insect - true fly (Diptera)	5	N
Epistrophe diaphana	<i>Epistrophe diaphana</i>	insect - true fly (Diptera)	1	N
Volucella inanis	<i>Volucella inanis</i>	Insect - Hoverflies	1	N
Volucella inanis	<i>Volucella inanis</i>	insect - true fly (Diptera)	41	N
Volucella inflata	<i>Volucella inflata</i>	insect - true fly (Diptera)	2	N
Volucella zonaria	<i>Volucella zonaria</i>	Insect - Hoverflies	3	N
Volucella zonaria	<i>Volucella zonaria</i>	insect - true fly (Diptera)	35	N
Xanthandrus comtus	<i>Xanthandrus comtus</i>	insect - true fly (Diptera)	1	N
Leopoldius signatus	<i>Leopoldius signatus</i>	insect - true fly (Diptera)	3	N
Chrysis illigeri	<i>Chrysis illigeri</i>	insect - hymenopteran	1	Nb
Priocnemis (Priocnemis) hyalinata	<i>Priocnemis (Priocnemis) hyalinata</i>	insect - hymenopteran	1	Nb
Arachnospila (Anoplochaeres) minutula	<i>Arachnospila (Anoplochaeres) minutula</i>	insect - hymenopteran	1	Nb
Dolichovespula (Dolichovespula) media	<i>Dolichovespula (Dolichovespula) media</i>	insect - hymenopteran	1	Na
Ectemnius (Clytochrysus) sexcinctus	<i>Ectemnius (Clytochrysus) sexcinctus</i>	insect - hymenopteran	1	Nb
Small Spurred Digger Wasp	<i>Nysson dimidiatus</i>	insect - hymenopteran	1	Nb
Argogorytes fargeii	<i>Argogorytes fargeii</i>	insect - hymenopteran	1	Na
Five-banded Weevil-wasp	<i>Cerceris quinquefasciata</i>	insect - hymenopteran	10	Breck_Special, FEP7/2, RDBGB.R, Sect.41, UKBAP
Large Yellow-Faced Bee	<i>Hylaeus (Prosopis) signatus</i>	insect - hymenopteran	11	Nb
Hylaeus (Abrupta) cornutus	<i>Hylaeus (Abrupta) cornutus</i>	insect - hymenopteran	6	Na
Andrena (Plastandrena) bimaculata	<i>Andrena (Plastandrena) bimaculata</i>	insect - hymenopteran	5	Nb

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Andrena (Plastandrena) tibialis	<i>Andrena (Plastandrena) tibialis</i>	insect - hymenopteran	1	Na
Tormentil Mining Bee	<i>Andrena (Poliandrena) tarsata</i>	insect - hymenopteran	1	Sect.41, Sect.42, UKBAP
Andrena (Chlorandrena) humilis	<i>Andrena (Chlorandrena) humilis</i>	insect - hymenopteran	2	Nb
Lasioglossum (Evylaeus) pauxillum	<i>Lasioglossum (Evylaeus) pauxillum</i>	insect - hymenopteran	5	Na
Two-coloured Mason Bee	<i>Osmia (Neosmia) bicolor</i>	insect - hymenopteran	1	Nb
Nomada fucata	<i>Nomada fucata</i>	insect - hymenopteran	2	Na
Hill Cuckoo Bee	<i>Bombus (Psithyrus) rupestris</i>	insect - hymenopteran	2	Nb
Red-shanked Carder-bee	<i>Bombus (Thoracobombus) ruderarius</i>	insect - hymenopteran	3	ScotBL, Sect.41, Sect.42, UKBAP

Table 20 - Species of Conservation Concern - mollusc

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Desmoulin's Whorl Snail	<i>Vertigo moulinsiana</i>	mollusc	18	FEP7/2, HSD2p, RDBGB.R, RLGLB.LR(cd), Sect.41, Sect.42, UKBAP

Table 21 - Species of Conservation Concern - moss

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Red Bog-moss	<i>Sphagnum capillifolium</i>	moss	1	HSD5
Red Bog-moss	<i>Sphagnum capillifolium subsp. rubellum</i>	moss	2	HSD5
Compact Bog-moss	<i>Sphagnum compactum</i>	moss	2	HSD5
Cow-horn Bog-moss	<i>Sphagnum denticulatum</i>	moss	1	HSD5

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Flat-topped Bog-moss	<i>Sphagnum fallax</i>	moss	3	HSD5
Fringed Bog-moss	<i>Sphagnum fimbriatum</i>	moss	1	HSD5
Blunt-leaved Bog-moss	<i>Sphagnum palustre</i>	moss	3	HSD5
Lustrous Bog-moss	<i>Sphagnum subnitens</i>	moss	1	HSD5
Large White-moss	<i>Leucobryum glaucum</i>	moss	5	HSD5
Rounded Pygmy-moss	<i>Acaulon muticum</i>	moss	1	NR-excludes
Lesser Screw-moss	<i>Syntrichia virescens</i>	moss	4	NS-excludes
Tall-clustered Thread-moss	<i>Bryum pallescens</i>	moss	1	NS-excludes

Table 22 - Species of Conservation Concern - reptile

Common Name	Latin Name	Taxon Group	Number of Records	Designation
European Pond Terrapin	<i>Emys orbicularis</i>	reptile	1	Bern2
Slow-worm	<i>Anguis fragilis</i>	reptile	68	Bern3, Sect.41, Sect.42, UKBAP, WCA5/9.1k/l, WCA5/9.5a, WCA5/9.5b
Common Lizard	<i>Zootoca vivipara</i>	reptile	26	Bern3, Sect.41, Sect.42, UKBAP, WCA5/9.1k/l, WCA5/9.5a, WCA5/9.5b, WO5
Grass Snake	<i>Natrix natrix</i>	reptile	75	Bern3, Sect.41, Sect.42, UKBAP, WCA5/9.1k/l, WCA5/9.5a, WCA5/9.5b
Adder	<i>Vipera berus</i>	reptile	10	Bern3, Sect.41, Sect.42, UKBAP, WCA5/9.1k/l, WCA5/9.5a, WCA5/9.5b

Table 23 - Species of Conservation Concern - terrestrial mammal

Common Name	Latin Name	Taxon Group	Number of Records	Designation
European Otter	<i>Lutra lutra</i>	terrestrial mammal	86	Bern2, CITESA, FEP7/2, HabRegs2, HSD2p, HSD4, RLGLB.NT, ScotBL, Sect.41, Sect.42, UKBAP, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b
Eurasian Badger	<i>Meles meles</i>	terrestrial mammal	141	Bern3, PBA, ScotBL, WO5
Polecat	<i>Mustela putorius</i>	terrestrial mammal	2	Bern3, HabRegs4, HSD5, Sect.41, Sect.42, UKBAP
West European Hedgehog	<i>Erinaceus europaeus</i>	terrestrial mammal	270	Bern3, Sect.41, Sect.42, UKBAP
Western Barbastelle	<i>Barbastella barbastellus</i>	terrestrial mammal	163	Bern2, CMS_A2, CMS_EUROBATS-A1, FEP7/2, HabRegs2, HSD2p, HSD4, RLGLB.NT, Sect.41, Sect.42, UKBAP, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b
Serotine	<i>Eptesicus serotinus</i>	terrestrial mammal	65	Bern2, CMS_A2, CMS_EUROBATS-A1, FEP7/2, HabRegs2, HSD4, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b
Unidentified Bat	<i>Myotis</i>	terrestrial mammal	189	CMS_A2, HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b
Whiskered/Brandt's Bat	<i>Myotis mystacinus/brandtii</i>	terrestrial mammal	1	CMS_A2, HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Daubenton's Bat	<i>Myotis daubentonii</i>	terrestrial mammal	120	Bern2, CMS_A2, CMS_EUROBATS-A1, FEP7/2, HabRegs2, HSD4, ScotBL, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b
Whiskered Bat	<i>Myotis mystacinus</i>	terrestrial mammal	1	Bern2, CMS_A2, CMS_EUROBATS-A1, FEP7/2, HabRegs2, HSD4, ScotBL, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b
Natterer's Bat	<i>Myotis nattereri</i>	terrestrial mammal	129	Bern2, CMS_A2, CMS_EUROBATS-A1, FEP7/2, HabRegs2, HSD4, ScotBL, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b
Nyctalus Bat species	<i>Nyctalus</i>	terrestrial mammal	1	CMS_A2, HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b
Lesser Noctule	<i>Nyctalus leisleri</i>	terrestrial mammal	5	Bern2, CMS_A2, CMS_EUROBATS-A1, FEP7/2, HabRegs2, HSD4, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b
Noctule Bat	<i>Nyctalus noctula</i>	terrestrial mammal	295	Bern2, CMS_A2, CMS_EUROBATS-A1, FEP7/2, HabRegs2, HSD4, ScotBL, Sect.41, Sect.42, UKBAP, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b

Common Name	Latin Name	Taxon Group	Number of Records	Designation
Pipistrelle Bat species	<i>Pipistrellus</i>	terrestrial mammal	299	CMS_A2, HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b
Pipistrelle	<i>Pipistrellus pipistrellus sensu lato</i>	terrestrial mammal	761	Bern2, Bern3, CMS_A2, CMS_EUROBATS-A1, FEP7/2, HabRegs2, HSD4, ScotBL, Sect.42, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b
Nathusius's Pipistrelle	<i>Pipistrellus nathusii</i>	terrestrial mammal	52	Bern2, CMS_A2, CMS_EUROBATS-A1, HabRegs2, HSD4, ScotBL, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b
Common Pipistrelle	<i>Pipistrellus pipistrellus sensu stricto</i>	terrestrial mammal	86	CMS_A2, HabRegs2, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	terrestrial mammal	940	Bern2, CMS_A2, CMS_EUROBATS-A1, HabRegs2, HSD4, ScotBL, Sect.41, Sect.42, UKBAP, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b
Brown Long-eared Bat	<i>Plecotus auritus</i>	terrestrial mammal	233	Bern2, CMS_A2, CMS_EUROBATS-A1, FEP7/2, HabRegs2, HSD4, ScotBL, Sect.41, Sect.42, UKBAP, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b
Eurasian Red Squirrel	<i>Sciurus vulgaris</i>	terrestrial mammal	1	Bern3, FEP7/2, ScotBL, Sect.41,

Common Name	Latin Name	Taxon Group	Number of Records	Designation
				Sect.42, UKBAP, WCA5/9.1k/l, WCA5/9.1t, WCA5/9.2, WCA5/9.4.a, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b, WO5
European Water Vole	<i>Arvicola amphibius</i>	terrestrial mammal	108	FEP7/2, ScotBL, Sect.41, Sect.42, UKBAP, WCA5/9.1k/l, WCA5/9.1t, WCA5/9.2, WCA5/9.4.a, WCA5/9.4b, WCA5/9.4c, WCA5/9.5a, WCA5/9.5b
Harvest Mouse	<i>Micromys minutus</i>	terrestrial mammal	11	Sect.41, Sect.42, UKBAP
Brown Hare	<i>Lepus europaeus</i>	terrestrial mammal	90	FEP7/2, ScotBL, Sect.41, Sect.42, UKBAP

Table 24 - Abbreviations and designations

Abbreviated Designation	Full designation	Description
Bern1	Bern Convention Appendix 1	Special protection ('appropriate and necessary legislative and administrative measures') for the plant taxa listed, including prohibition of deliberate picking, collecting, cutting, uprooting and, as appropriate, possession or sale.
Bern2	Bern Convention Appendix 2	Special protection ('appropriate and necessary legislative and administrative measures') for the animal taxa listed, including all forms of deliberate capture and keeping and deliberate killing; the deliberate damage to or destruction of breeding or restin
Bern3	Bern Convention Appendix 3	Special protection through 'appropriate and necessary legislative and administrative measures', of the listed wild fauna species.
BD1	Birds Directive Annex 1	Birds which are the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. As appropriate, Special Protection Areas to be established to assist conservation measu
BD2.1	Birds Directive Annex 2.1	Birds which may potentially be hunted under national legislation within the geographical land and sea area to which the Directive applies. (Note that some species are protected by the national legislation of some Member States although hunting would poten

Abbreviated Designation	Full designation	Description
BD2.2	Birds Directive Annex 2.2	Birds which may potentially be hunted under national legislation only within certain specified Member States. (Note that some species are protected by the national legislation of some Member States although hunting would potentially be legal under the Dir
BD3.1	Birds Directive Annex 3.1	Birds (or parts / derivatives of) which may be sold, kept for sale or transported for sale provided they have been legally killed, captured or otherwise legally acquired (see Article 6.1).
BD3.2	Birds Directive Annex 3.2	Birds (or parts / derivatives of) which may be sold, kept for sale or transported for sale provided they have been legally killed, captured or otherwise legally acquired provided authorisation has been granted by the relevant Member State (see Article 6.2
BD3.3	Birds Directive Annex 3.3	Birds which, in 1979, the European Commission were charged under Article 6.4 with carrying out studies to assess the biological status of and the effects of marketing on such status. (Note this Annex is no longer operative, these studies having now been u
CMS_A1	Convention on Migratory Species, Appendix 1	Endangered migratory species in danger of extinction throughout all or a significant portion of their range, and for which Range States are obliged to prohibit taking and to take protective measures to conserve. (Note that taking may be permitted in some
CMS_A2	Convention on Migratory Species, Appendix 2	Migratory species having an unfavourable conservation status for which Range States are encouraged to conclude international agreements for their benefit.
CMS_AEWA-A2	Convention on Migratory Species, African-Eurasian Waterbirds Agreement - Annex II	Conservation of migratory waterbirds, giving special attention to endangered species as well as to those with an unfavourable conservation status.
CMS_ASCOBAN S	Convention on Migratory Species, Small Cetaceans Agreement, Baltic, NE.Atlantic, Irish, N Seas	Conservation of small cetacean species to achieve favourable conservation status, conscious that the management of threats to their existence, such as bycatch, habitat deterioration and other anthropogenic disturbance, requires concerted and coordinated r
CMS_EUROBAT S-A1	Convention on Migratory Species, EUROBATS - Annex I	Protection and enhancement of species populations through legislation, education, conservation measures and international co-operation.
CITESA	EC CITES Annex A	All CITES Appendix I species. Some CITES Appendix II and III species, for which the EU has adopted stricter domestic measures. Some non-CITES species.
CITESB	EC CITES Annex B	All other CITES Appendix II species not listed in Annex A. Some CITES Appendix III species. Some non-CITES species.

Abbreviated Designation	Full designation	Description
CITESC	EC CITES Annex C	All other CITES Appendix III species not listed in Annex A or Annex B.
CITESD	EC CITES Annex D	Some CITES Appendix III species for which the EU holds a reservation (CITES reservations - English, French, Spanish). Some non-CITES species.
HSD2np	Habitats Directive Annex 2 - priority species	Species which are endangered, the conservation of which the Community has a particular responsibility in view of the proportion of their natural range which falls within the territory of the Community. They require the designation of special areas of cons
HSD2p	Habitats Directive Annex 2 - non-priority species	Animal and plant species of Community interest (i.e. endangered, vulnerable, rare or endemic in the European Community) whose conservation requires the designation of special areas of conservation. Note that the contents of this annex have been updated in
HSD4	Habitats Directive Annex 4	Animal and plant species of Community interest (i.e. endangered, vulnerable, rare or endemic in the European Community) in need of strict protection. They are protected from killing, disturbance or the destruction of them or their habitat. Note that the c
HSD5	Habitats Directive Annex 5	Animal and plant species of Community interest whose taking in the wild and exploitation may be subject to management measures.
OSPAR	OSPAR Convention	OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic. OSPAR List of Threatened and/or Declining Species and Habitats.
PBA	Protection of Badgers Act 1992	An Act to consolidate the Badgers Act 1973, the Badgers Act 1991 and the Badgers (Further Protection) Act 1991. Prohibits the wilful injuring, killing or taking of badgers, except as permitted by or under the Act.
Sect.41	NERC Act 2006 - Species of Principal Importance in England (sec	Species "of principal importance for the purpose of conserving biodiversity" covered under section 41 (England) of the NERC Act (2006) and therefore need to be taken into consideration by a public body when performing any of its functions with a view to c
HabRegs2	The Conservation (Natural Habitats, &c.) Regulations 2010 (Schedule 2)	Schedule 2- European protected species of animals.
HabRegs4	The Conservation (Natural Habitats, &c.) Regulations 2010 (Schedule 4)	Schedule 4- Animals which may not be taken or killed in certain ways
HabRegs5	The Conservation (Natural Habitats, &c.) Regulations 2010 (Schedule 5)	Schedule 5- European protected species of plants.

Abbreviated Designation	Full designation	Description
ScotBL	Scottish Biodiversity List of species of principal importance for biodiversity conservation	The Scottish Biodiversity List is a list of flora, fauna and habitats considered by the Scottish Ministers to be of principal importance for biodiversity conservation. The development of the list has been a collaborative effort involving a great many stakeholders.
WO1i	The Wildlife (Northern Ireland) Order 1985 (Schedule 1 Part 1)	Birds which are protected by special penalties at all times.
WO1ii	The Wildlife (Northern Ireland) Order 1985 (Schedule 1 Part 2)	Birds which are protected by special penalties during the close season.
WO2i	The Wildlife (Northern Ireland) Order 1985 (Schedule 2 Part 1)	Birds which may be killed or taken outside the close season.
WO2ii	The Wildlife (Northern Ireland) Order 1985 (Schedule 2 Part 2)	Birds which may be killed or taken by authorised persons at all times. This has now been deleted and no longer applies: the provision of this part is covered by General Licences issued annually.
WO3	The Wildlife (Northern Ireland) Order 1985 (Schedule 3)	Birds which may be sold dead at all times.
WO4	The Wildlife (Northern Ireland) Order 1985 (Schedule 4)	Birds which may be shown for competitive purposes.
WO5	The Wildlife (Northern Ireland) Order 1985 (Schedule 5)	Animals which are protected at all times.
WO6	The Wildlife (Northern Ireland) Order 1985 (Schedule 6)	Animals which may not be killed or taken by certain methods.
WO7	The Wildlife (Northern Ireland) Order 1985 (Schedule 7)	Animals which may be sold alive or dead at any time.

Abbreviated Designation	Full designation	Description
WO8i	The Wildlife (Northern Ireland) Order 1985 (Schedule 8 - Part 1)	Plants which are protected from intentional picking, removal or destruction and from selling (in whole or part) and from advertising for sale.
WO8ii	The Wildlife (Northern Ireland) Order 1985 (Schedule 8 - Part 2)	Plants which may not be sold.
WO9i	The Wildlife (Northern Ireland) Order 1985 (Schedule 9 - Part 1)	Animals which established in the wild but may not be released from captivity.
WO9ii	The Wildlife (Northern Ireland) Order 1985 (Schedule 9 - Part 2)	Plants which may not be caused to grow in the wild.
WCA1i	Wildlife and Countryside Act 1981 (Schedule 1 Part 1)	Birds which are protected by special penalties at all times.
WCA1ii	Wildlife and Countryside Act 1981 (Schedule 1 Part 2)	Birds which are protected by special penalties during the close season.
WCA2i	Wildlife and Countryside Act 1981 (Schedule 2 Part 1)	Birds which may be killed or taken outside the close season.
WCA2ii	Wildlife and Countryside Act 1981 (Schedule 2 Part 2)	Birds which may be killed or taken by authorised persons at all times.
WCA3i	Wildlife and Countryside Act 1981 (Schedule 3 Part 1)	Birds which may be sold alive at all times if ringed and bred in captivity.
WCA3ii	Wildlife and Countryside Act 1981 (Schedule 3 Part 2)	Birds which may be sold dead at all times.
WCA3iii	Wildlife and Countryside Act 1981 (Schedule 3 Part 3)	Birds which may be sold dead from 1st September to 28th February.

Abbreviated Designation	Full designation	Description
WCA4	Wildlife and Countryside Act 1981 (Schedule 4)	Birds which must be registered and ringed if kept in captivity.
WCA5/9.1(kill/injuring)	Wildlife and Countryside Act 1981 (Schedule 5 Section 9.1 (killing/injuring))	Section 9.1. Animals which are protected from intentional killing or injuring.
WCA5/9.1(taking)	Wildlife and Countryside Act 1981 (Schedule 5 Section 9.1 (taking))	Section 9.1 Animals which are protected from taking.
WCA5/9.2	Wildlife and Countryside Act 1981 (Schedule 5 Section 9.2)	Section 9.2 Animals which are protected from being possessed or controlled (live or dead).
WCA5/9.4a	Wildlife and Countryside Act 1981 (Schedule 5 Section 9.4a)	Section 9.4 Animals which are protected from intentional damage or destruction to any structure or place used for shelter or protection.
WCA5/9.4b	Wildlife and Countryside Act 1981 (Schedule 5 Section 9.4b)	Section 9.4 Animals which are protected from intentional disturbance while occupying a structure or place used for shelter or protection.
WCA5/9.5a	Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5a)	Section 9.5 Animals which are protected from being sold, offered for sale or being held or transported for sale either live or dead, whole or part.
WCA5/9.5b	Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5b)	Section 9.5 Animals which are protected from being published or advertised as being for sale.
WCA5/9.4A*	Wildlife and Countryside Act 1981 (Schedule 5)	Ceteaca/basking shark that are not allowed to be intentionally or recklessly disturbed.
WCA5/9.4c	Wildlife and Countryside Act 1981 (Schedule 5)	Animals which are protected from their access to any structure or place which they use for shelter or protection being obstructed.
WCA6	Wildlife and Countryside Act 1981 (Schedule 6)	Animals which may not be killed or taken by certain methods.
WCA8	Wildlife and Countryside Act	Plants which are protected from intentional picking, uprooting or destruction (Section 13 1a); selling, offering for sale, possessing

Abbreviated Designation	Full designation	Description
	1981 (Schedule 8)	or transporting for the purpose of sale (live or dead, part or derivative) (Section 13 2a); advertising (any of these) fo
WCA9i	Wildlife and Countryside Act 1981 (Schedule 9 Part 1)	Animals which may not be released or allowed to escape into the wild.
WCA9ii	Wildlife and Countryside Act 1981 (Schedule 9 Part 2)	Plants which may not be planted or caused to grow in the wild.
Sect.42	NERC Act 2006 - Species of Principal Importance in Wales (secti	Species "of principal importance for the purpose of conserving biodiversity" covered under Section 42 (Wales) of the NERC Act (2006) and therefore need to be taken into consideration by a public body when performing any of its functions with a view to con
Breck_Special	Breckland Specialists	Species identified as Breckland specialits by the Breckland Biodiversity audit 2010
NRPI	Norfolk Rare Plants	Norfolk rare plants as identified by BSBI County recorder Bob Ellis
FEP1	Farm Environment Plan Guidance 001	Species is listed in the DEFRA document 'Environmental Stewardship Farm Environment Plan Guidance 001: Hedgerow Woody Species (from Schedule 3 of Hedgerow Regulations 1997)'.
FEP7/2	Farm Environment Plan Guidance 007- Table 2	Species is listed in 'Table 2: Farm Environment Plan Species to be recorded in Part 2 of the FEP' of the DEFRA document 'Environmental Stewardship Farm Environment Plan Guidance 007: Plant & animal species in the Farm Environment Plan (FEP)'.
FEP7/3	Farm Environment Plan Guidance 007- Table 3	Species is listed in 'Table 3: High Value Arable Margin Indicator Species' of the DEFRA document 'Environmental Stewardship Farm Environment Plan Guidance 007: Plant & animal species in the Farm Environment Plan (FEP)'.
NRMar	Nationally rare marine species	Species which occur in eight or fewer 10km X 10km grid squares containing sea (or water of marine saline influence) within the three mile territorial limit.
NSMar	Nationally scarce marine species	Species which occur in nine to 55 10km X 10km grid squares containing sea (or water of marine saline influence) within the three mile territorial limit.
N	Nationally Notable	Species which are estimated to occur within the range of 16 to 100 10km squares. (subdivision into Notable A and Notable B is not always possible because there may be insufficient information available). Superseded by Nationally Scarce, and therefore no I
NA	Nationally Notable A	Taxa which do not fall within RDB categories but which are none-the-less uncommon in Great Britain and thought to occur in 30 or fewer 10km squares of the National Grid or, for less well-recorded groups, within seven or fewer vice-counties. Superseded by
NB	Nationally Notable B	Taxa which do not fall within RDB categories but which are none-the-less uncommon in Great Britain and thought to occur in

Abbreviated Designation	Full designation	Description
		between 31 and 100 10km squares of the National Grid or, for less-well recorded groups between eight and twenty vice-counties. Super
NR-excludes	Nationally rare. Excludes Red Listed taxa	Occurring in 15 or fewer hectads in Great Britain. Excludes rare species qualifying under the main IUCN criteria.
NS-excludes	Nationally scarce. Excludes Red Listed taxa	Occurring in 15 or fewer hectads in Great Britain. Excludes rare species qualifying under the main IUCN criteria.
BAmb	Bird Population Status - amber	Amber list species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeder
BRed	Bird Population Status - red	Red list species are those that are Globally Threatened according to IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and not shown a substantial recent recovery.
RLGB.CR	IUCN (2001) - Critically endangered	A taxon is Critically Endangered when it is facing an extremely high risk of extinction in the wild in the immediate future, as defined by any of the criteria A to E.
RLGB.DD	IUCN (2001) - Data Deficient	A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known
RLGB.EN	IUCN (2001) - Endangered	A taxon is Endangered when it is not Critically endangered but is facing a very high risk of extinction in the wild in the near future.
RLGB.EW	IUCN (2001) - Extinct in the wild	A taxon is Extinct in the wild in Great Britain when it is known to survive only in cultivation, in captivity or as a naturalised population (or populations) well outside the past range. A taxon is presumed extinct in the wild when exhaustive surveys in k
RLGB.EX	IUCN (2001) - Extinct	A taxon is Extinct in Great Britain when there is no reasonable doubt that the last individual in Great Britain has died. A taxon is presumed extinct when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual
RLGB.NT	IUCN (2001) - Lower risk - near threatened	Taxa which do not qualify for Lower Risk (conservation dependent), but which are close to qualifying for Vulnerable. In Britain, this category includes species which occur in 15 or fewer hectads but do not qualify as Critically Endangered, Endangered or V
RLGB.RE	IUCN (2001) - Regionally Extinct	Category for a taxon when there is no reasonable doubt that the last individual potentially capable of reproduction within the region has died or has disappeared from the wild in the region, or when, if it is a former visiting taxon, the last individual ha
RLGB.VU	IUCN (2001) - Vulnerable	A taxon is Vulnerable when it is not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium term future.

Abbreviated Designation	Full designation	Description
RLGB.CR	IUCN (1994) - Critically endangered	A taxon is Critically Endangered when it is facing an extremely high risk of extinction in the wild in the immediate future, as defined by any of the criteria A to E.
RLGB.DD	IUCN (1994) - Data Deficient	A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known
RLGB.EN	IUCN (1994) - Endangered	A taxon is Endangered when it is not Critically endangered but is facing a very high risk of extinction in the wild in the near future.
RLGB.EX	IUCN (1994) - Extinct	Taxa which are no longer known to exist in the wild after repeated searches of their localities and other known likely places. Superseded by new IUCN categories in 1994, but still applicable to lists that have not been reviewed since 1994.
RLGBLr(NT)	IUCN (1994) - Lower risk - near threatened	Taxa which do not qualify for Lower Risk (conservation dependent), but which are close to qualifying for Vulnerable. In Britain, this category includes species which occur in 15 or fewer hectads but do not qualify as Critically Endangered, Endangered or V
RLGB.VU	IUCN (1994) - Vulnerable	A taxon is Vulnerable when it is not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium term future.
RDBGB.EN	IUCN (pre 1994) - Endangered	Taxa in danger of extinction and whose survival is unlikely if the causal factors continue operating. Superseded by new IUCN categories in 1994, but still applicable to lists that have not been reviewed since 1994.
RDBGB.EX	IUCN (pre 1994) - Extinct	Taxa which are no longer known to exist in the wild after repeated searches of their localities and other known likely places. Superseded by new IUCN categories in 1994, but still applicable to lists that have not been reviewed since 1994.
RDBGB.Inde	RDB - Indeterm	Taxa not seen since 1970 but require further survey before they can be declared extinct known to be Extinct, Endangered, Vulnerable or Rare, but where there is not enough information to say which of these categories is appropriate. Superseded by new IUCN c
RDBGB.Insu	RDB - Insuff known	Taxa that are suspected but not definitely known to belong to any of the above categories (i.e. Endangered, Vulnerable, Rare), because of the lack of information. Superseded by new IUCN categories in 1994, so no longer in use.
RDBGB.R	IUCN (pre 1994) - Rare	Taxa with small populations that are not at present Endangered or Vulnerable, but are at risk. (In GB, this was interpreted as species which exist in fifteen or fewer 10km squares). Superseded by new IUCN categories in 1994, but still applicable to lists
RDBGB.Thre	RDB - Threatened endemic	Taxa which are not known to occur naturally outside Britain. Taxa within this category may also be in any of the other RDB categories or not threatened at all.
RDBGB.VU	IUCN (pre 1994) - Vulnerable	Taxa believed likely to move into the Endangered category in the near future if the causal factors continue operating. Superseded

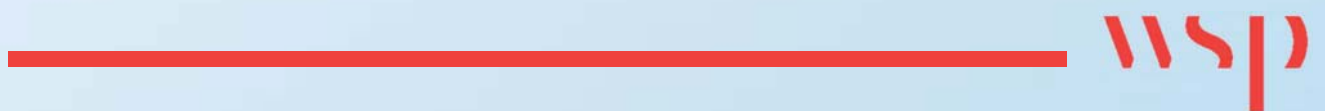
Abbreviated Designation	Full designation	Description
		by new IUCN categories in 1994, but still applicable to lists that have not been reviewed since 1994.
RLGLB.CR	IUCN (2001) - Critically endangered	A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered (see Section V), and it is therefore considered to be facing an extremely high risk of extinction in the wild.
RLGLB.EN	IUCN (2001) - Endangered	A taxon is Endangered when the best available evidence indicates that it meets any of the criteria A to E for Endangered (see Section V), and it is therefore considered to be facing a very high risk of extinction in the wild.
RLGLB.VU	IUCN (2001) - Vulnerable	A taxon is Vulnerable when the best available evidence indicates that it meets any of the criteria A to E for Vulnerable (see Section V), and it is therefore considered to be facing a high risk of extinction in the wild.
RLGLB.DD	IUCN (2001) - Data Deficient	A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known
RLGLB.EX	IUCN (2001) - Extinct	A taxon is Extinct when there is no reasonable doubt that the last individual has died. A taxon is presumed Extinct when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range h
RLGLB.NT	IUCN (2001) - Lower risk - near threatened	A taxon is Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future.
RLGLB.CR	IUCN (1994) - Critically endangered	A taxon is Critically Endangered when it is facing an extremely high risk of extinction in the wild in the immediate future, as defined by any of the criteria A to E.
RLGLB.DD	IUCN (1994) - Data Deficient	A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known
RLGLB.EN	IUCN (1994) - Endangered	Taxa in danger of extinction and whose survival is unlikely if the causal factors continue operating. Superseded by new IUCN categories in 1994, but still applicable to lists that have not been reviewed since 1994.
RLGLB.LR(cd)	IUCN (1994) - Lower risk - conservation dependent	Taxa which are the focus of a continuing taxon-specific or habitat-specific conservation programme targeted towards the taxon in question, the cessation of which would result in the taxon qualifying for one of the threatened categories above within a peri
RLGLB.NT	IUCN (1994) - Lower risk - near threatened	Taxa which do not qualify for Lower Risk (conservation dependent), but which are close to qualifying for Vulnerable. In Britain, this category includes species which occur in 15 or fewer hectads but do not qualify as Critically Endangered, Endangered or V
RLGLB.VU	IUCN (1994) - Vulnerable	Taxa believed likely to move into the Endangered category in the near future if the causal factors continue operating. Superseded

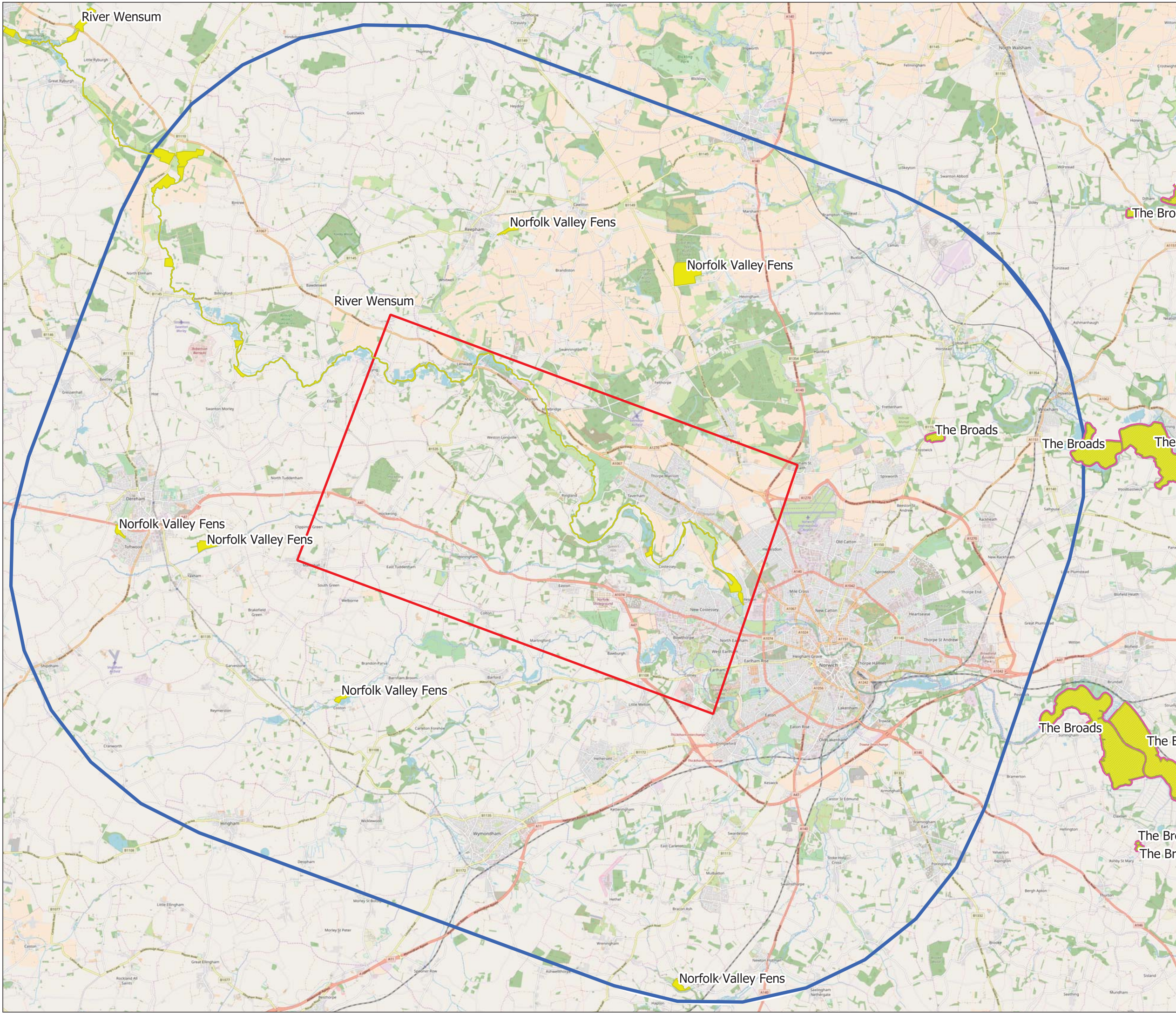
Abbreviated Designation	Full designation	Description
		by new IUCN categories in 1994, but still applicable to lists that have not been reviewed since 1994.
UKBAP	UK Biodiversity Action Plan priority species	The UK List of Priority Species and Habitats contains 1150 species and 65 habitats that have been listed as priorities for conservation action under the UK Biodiversity Action Plan (UK BAP).
RDBGB.Thre	RDB - Threatened endemic	Taxa which are not known to occur naturally outside Britain. Taxa within this category may also be in any of the other RDB categories or not threatened at all.
RDBGB.VU	IUCN (pre 1994) - Vulnerable	Taxa believed likely to move into the Endangered category in the near future if the causal factors continue operating. Superseded by new IUCN categories in 1994, but still applicable to lists that have not been reviewed since 1994.
RLGLB.CR	IUCN (2001) - Critically endangered	A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered (see Section V), and it is therefore considered to be facing an extremely high risk of extinction in the wild.
RLGLB.EN	IUCN (2001) - Endangered	A taxon is Endangered when the best available evidence indicates that it meets any of the criteria A to E for Endangered (see Section V), and it is therefore considered to be facing a very high risk of extinction in the wild.
RLGLB.VU	IUCN (2001) - Vulnerable	A taxon is Vulnerable when the best available evidence indicates that it meets any of the criteria A to E for Vulnerable (see Section V), and it is therefore considered to be facing a high risk of extinction in the wild.
RLGLB.DD	IUCN (2001) - Data Deficient	A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known
RLGLB.EX	IUCN (2001) - Extinct	A taxon is Extinct when there is no reasonable doubt that the last individual has died. A taxon is presumed Extinct when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range h
RLGLB.NT	IUCN (2001) - Lower risk - near threatened	A taxon is Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future.
RLGLB.CR	IUCN (1994) - Critically endangered	A taxon is Critically Endangered when it is facing an extremely high risk of extinction in the wild in the immediate future, as defined by any of the criteria A to E.
RLGLB.DD	IUCN (1994) - Data Deficient	A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known
RLGLB.EN	IUCN (1994) - Endangered	Taxa in danger of extinction and whose survival is unlikely if the causal factors continue operating. Superseded by new IUCN categories in 1994, but still applicable to lists that have not been reviewed since 1994.

Abbreviated Designation	Full designation	Description
RLGLB.LR(cd)	IUCN (1994) - Lower risk - conservation dependent	Taxa which are the focus of a continuing taxon-specific or habitat-specific conservation programme targeted towards the taxon in question, the cessation of which would result in the taxon qualifying for one of the threatened categories above within a peri
RLGLB.NT	IUCN (1994) - Lower risk - near threatened	Taxa which do not qualify for Lower Risk (conservation dependent), but which are close to qualifying for Vulnerable. In Britain, this category includes species which occur in 15 or fewer hectads but do not qualify as Critically Endangered, Endangered or V
RLGLB.VU	IUCN (1994) - Vulnerable	Taxa believed likely to move into the Endangered category in the near future if the causal factors continue operating. Superseded by new IUCN categories in 1994, but still applicable to lists that have not been reviewed since 1994.
UKBAP	UK Biodiversity Action Plan priority species	The UK List of Priority Species and Habitats contains 1150 species and 65 habitats that have been listed as priorities for conservation action under the UK Biodiversity Action Plan (UK BAP).

Appendix C

**EUROPEAN AND RAMSAR
STATUTORY DESIGNATED SITES
WITHIN 10KM DESK STUDY AREA**





- LEGEND**
- Field Study Area
 - 10km Desk Study Area
 - Special Areas of Conservation
 - Special Protection Areas
 - Ramsar Sites

STATUS: **FINAL**



WSP, 6 Devonshire Square
 London, EC2M 4YE
 Tel: +44 (0) 20 7337 1700
 www.wsp.com

CLIENT: **NORFOLK COUNTY COUNCIL**

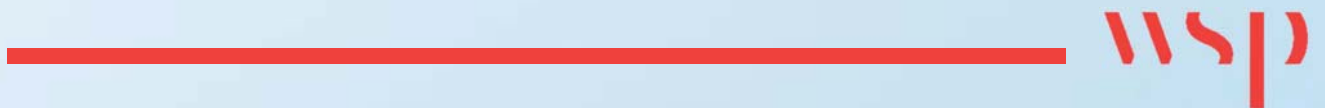
PROJECT: **NORWICH WESTERN LINK**

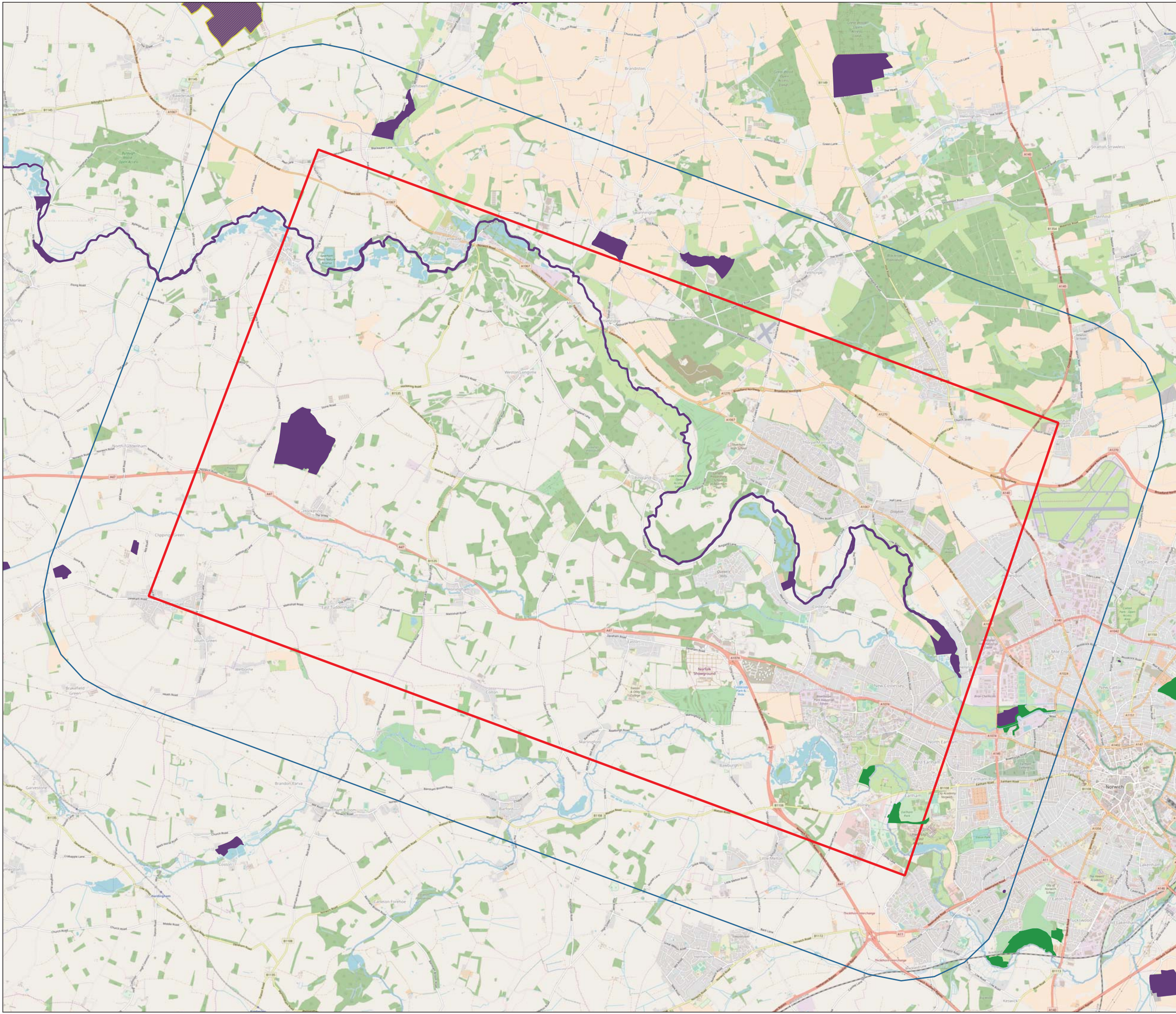
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SCALE @A3: 1:200,000	CHECKED: MG	APPROVED: SY
QGIS FILE: v1	DRAWN: 03/07/18	DATE: 06/09/18
PROJECT No: 70041922	DRAWING No: v1	REV: 0.1

Appendix D

**UK STATUTORY SITES WITHIN 2KM
DESK STUDY AREA**





- LEGEND**
- National Nature Reserves
 - Sites of Special Scientific Interest
 - Local Nature Reserves
 - Field Study Area
 - 2km Desk Study Area

STATUS: **FINAL**



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CLIENT: **NORFOLK COUNTY COUNCIL**

PROJECT: **NORWICH WESTERN LINK**

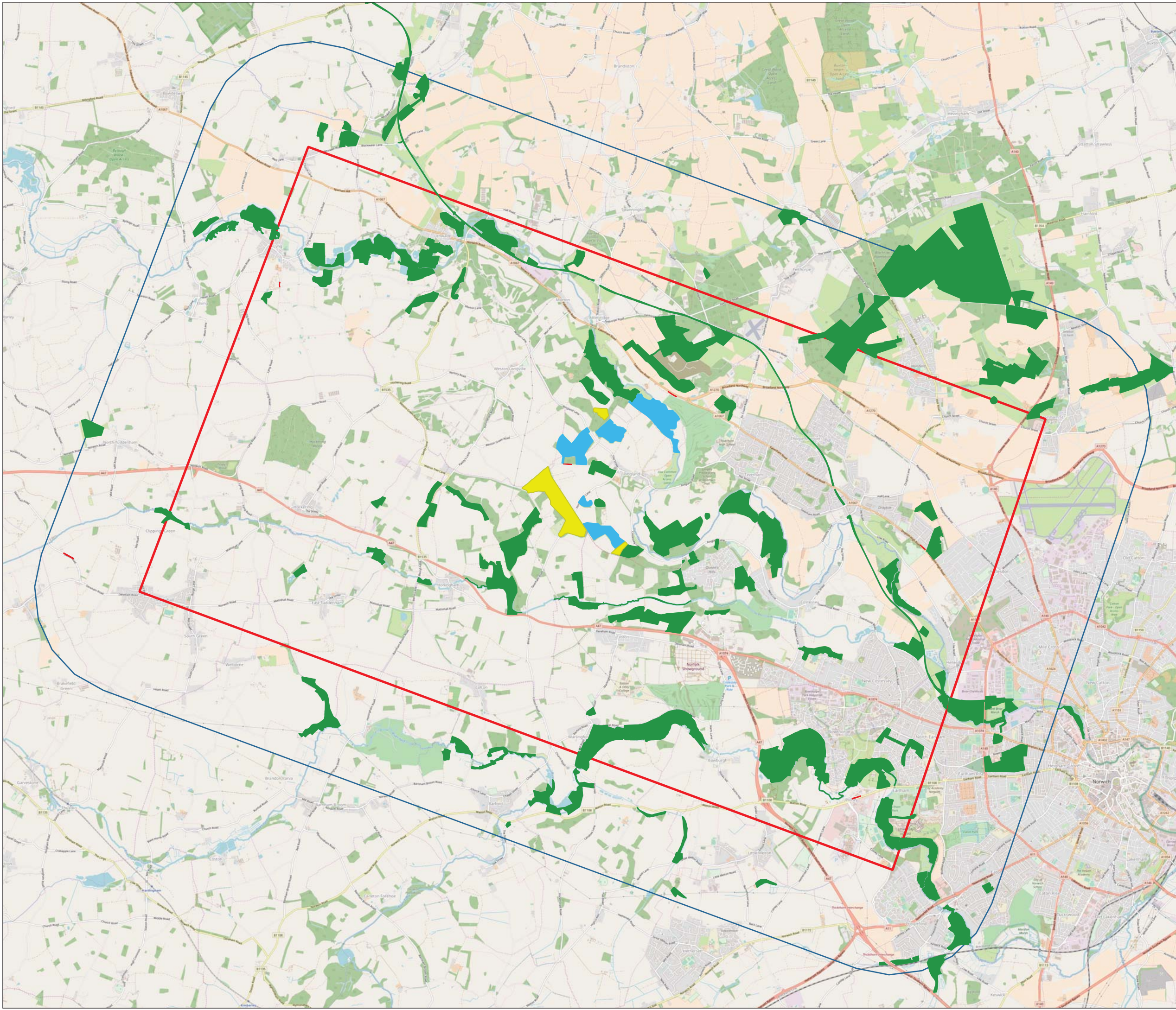
TITLE: **UK Statutory Sites**

SCALE @A3: 1:110,000	CHECKED: MG	APPROVED: SY
QGIS FILE: v1	DRAWN: 03/07/18	DATE: 06/09/18
PROJECT No: 70041922	DRAWING No: v1	REV: 0.1

Appendix E


**NON-STATUTORY DESIGNATED
SITES WITHIN 2KM DESK STUDY
AREA**





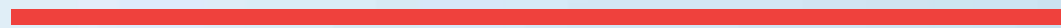
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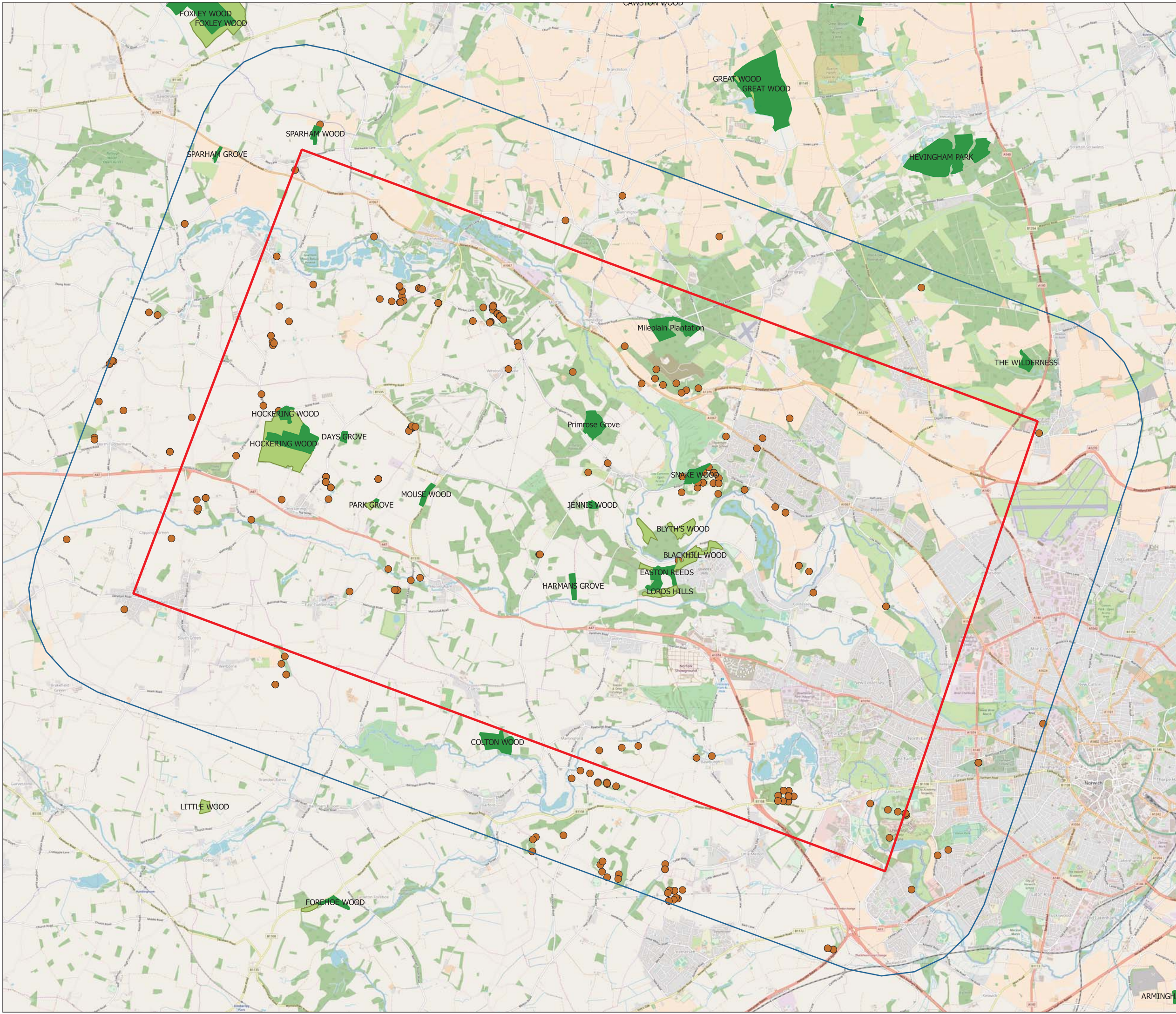
- Field Study Area
- 2km Desk Study Area
- Roadside Nature Reserves
- County Wildlife Sites
- Proposed County Wildlife Sites 2018
- County Wildlife Sites Other

STATUS:	FINAL
 <p>WSP, 6 Devonshire Square London, EC2M 4YE Tel: +44 (0) 20 7337 1700 www.wsp.com</p>	
CLIENT:	NORFOLK COUNTY COUNCIL
PROJECT:	NORWICH WESTERN LINK
TITLE:	Non-statutory Sites
SCALE @A3:	1:110,000
CHECKED:	MG
APPROVED:	SY
QGIS FILE:	v1
DRAWN:	03/07/18
DATE:	06/09/18
PROJECT No:	70041922
DRAWING No:	v1
REV:	0.1

Appendix F

ANCIENT WOODLAND





LEGEND:

- Field Survey Area
- 2km Desk Study Area
- Ancient Woodlands
- Ancient Sem-natural Woodland
- Plantation Ancient Woodland Site
- Veteran Trees

STATUS: **FINAL**



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CLIENT: **NORFOLK COUNTY COUNCIL**

PROJECT: **NORWICH WESTERN LINK**

TITLE: **Ancient Woodlands**

SCALE @A3: 1:110,657	CHECKED: MG	APPROVED: SY
QGIS FILE: v1	DRAWN: 03/07/18	DATE: 17/09/18
PROJECT No: 70041922	DRAWING No: v1	REV: 0.1

Appendix G

HABITATS OF PRINCIPAL IMPORTANCE





LEGEND

- Field Study Area
- 2km Desk Study Area
- Priority Habitats
- Coastal and floodplain grazing marsh
- Deciduous woodland
- Good quality semi-improved grassland
- Lowland fens
- Lowland meadows
- Traditional orchard
- Woodpasture and Parkland

STATUS:

FINAL



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CLIENT:

NORFOLK COUNTY COUNCIL

PROJECT:

NORWICH WESTERN LINK

TITLE:

Priority Habitats

SCALE @A3:

1:108,000

CHECKED:

MG

APPROVED:

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DRAWN:

03/07/18

DATE:

06/09/18

PROJECT No:

70041922

DRAWING No:

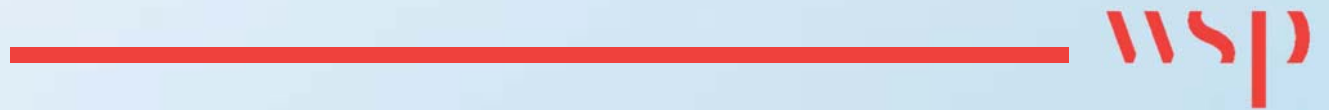
v1

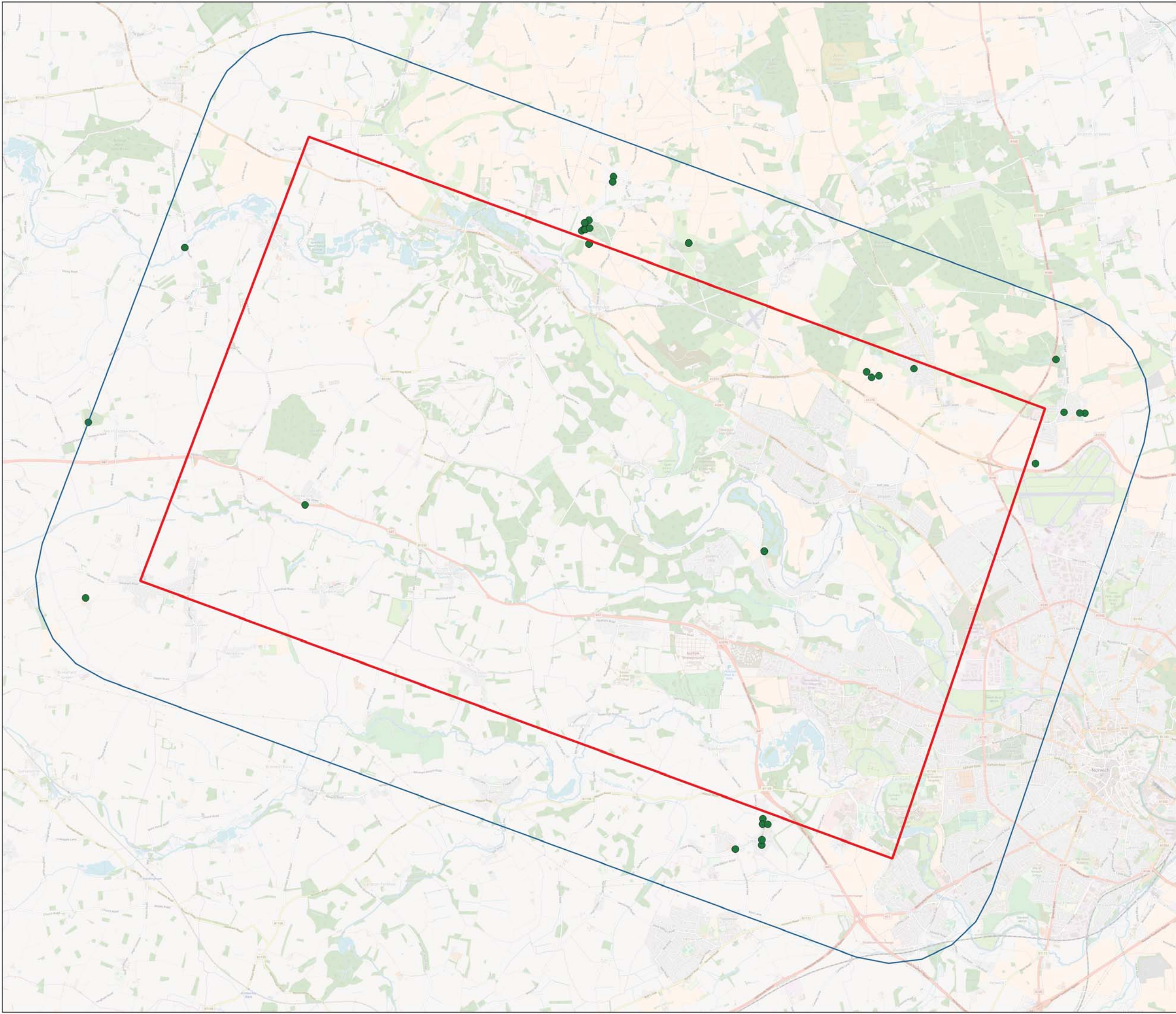
REV:

0.1

Appendix H

GREAT CRESTED NEWT





- LEGEND:**
- Field Survey Area
 - 2km Desk Study Area
 - Great Crested Newt

STATUS: **FINAL**



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 www.wsp.com

CLIENT: **NORFOLK COUNTY COUNCIL**

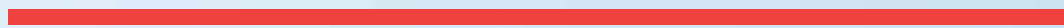
PROJECT: **NORWICH WESTERN LINK**

TITLE: **Great Crested Newt records**

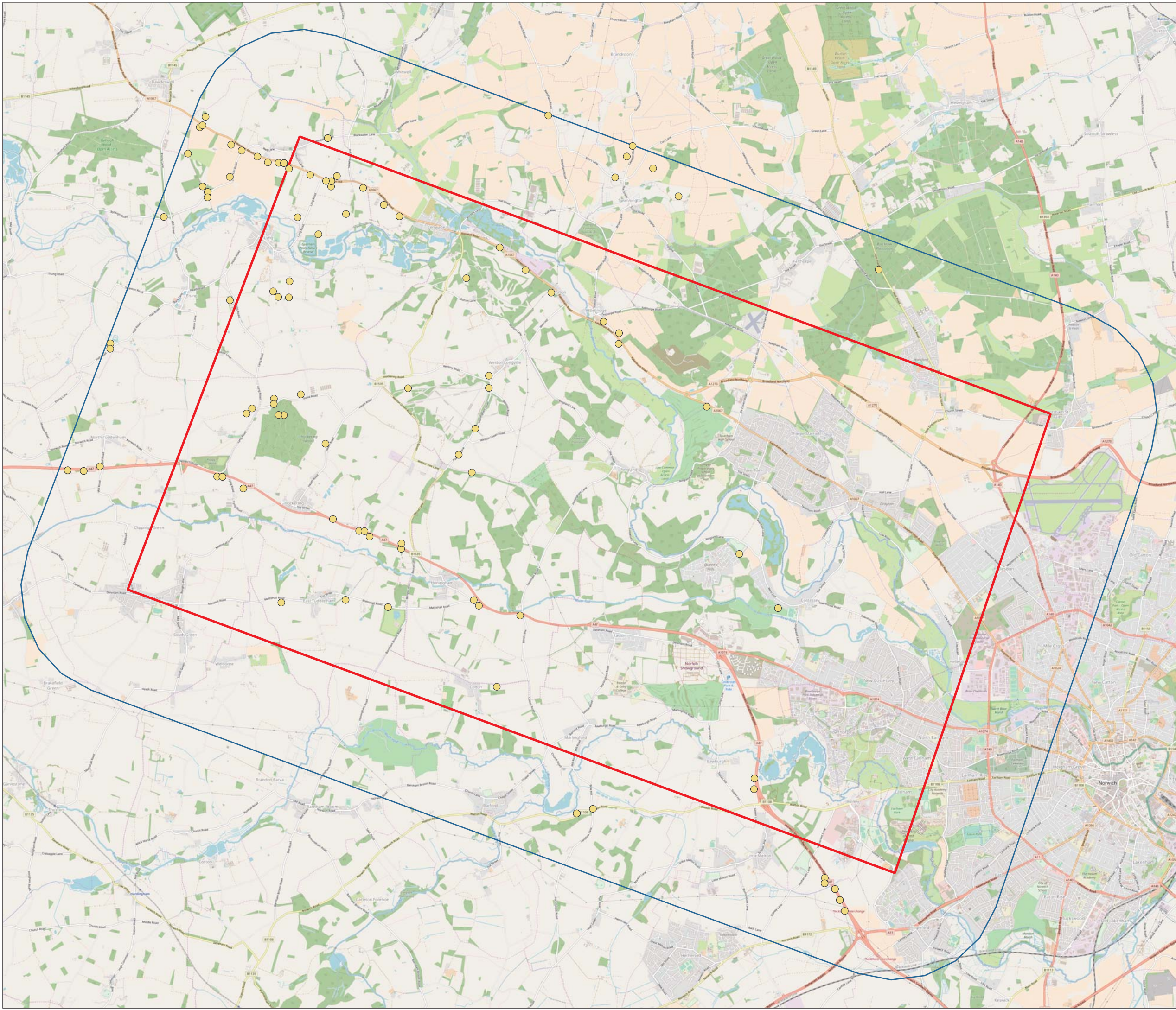
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QGIS FILE: v1	DRAWN: 04/07/18	DATE: 19/09/18
PROJECT No: 70041922	DRAWING No: v1	REV: 0.1

Appendix I

BADGER



wsp



LEGEND

- Field Study Area
- 2km Desk Study Area
- Badger records

STATUS: **FINAL**



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CLIENT: **NORFOLK COUNTY COUNCIL**

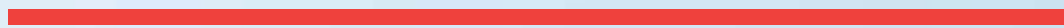
PROJECT: **NORWICH WESTERN LINK**

TITLE: **Badger records**

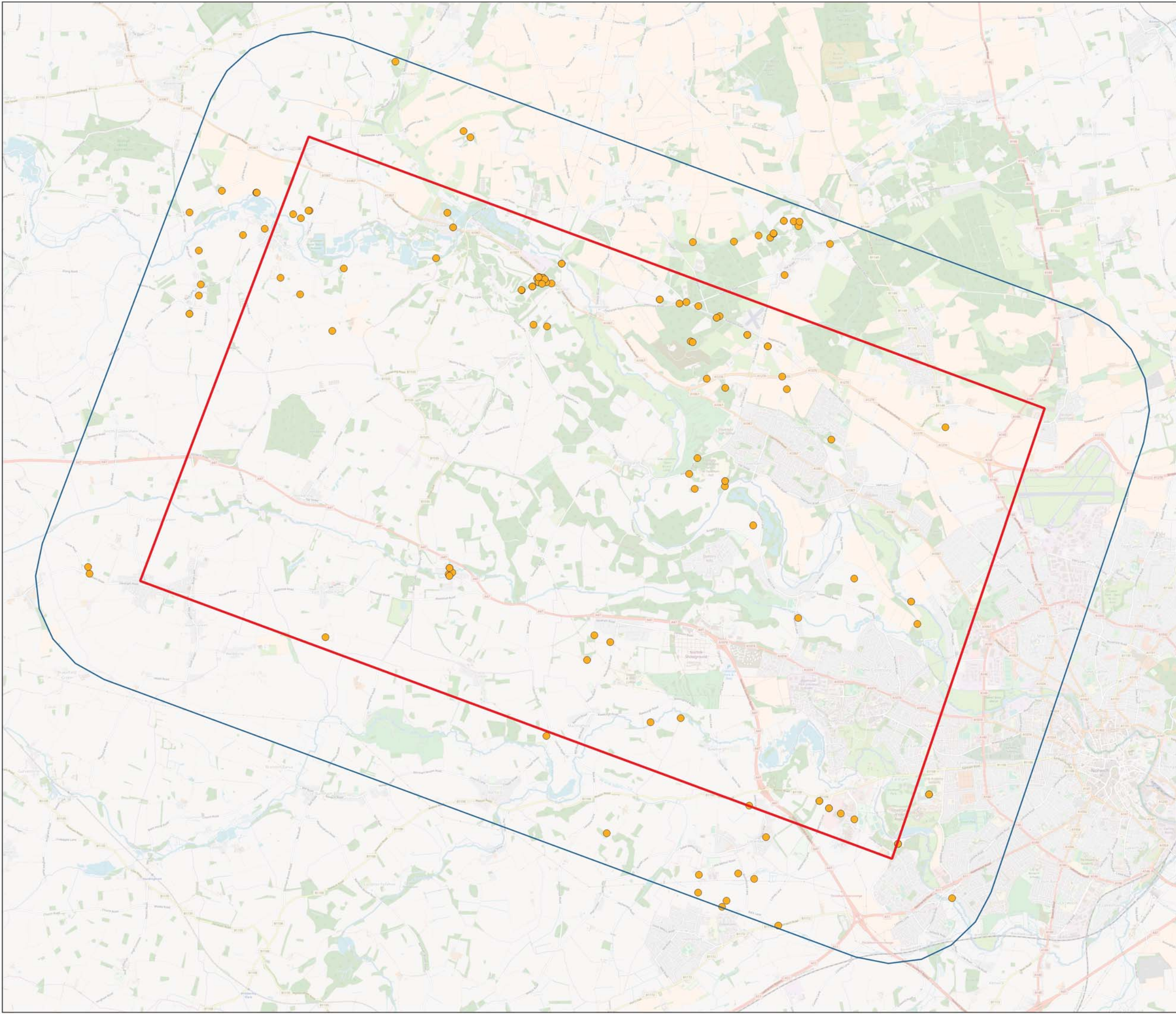
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QGIS FILE: v1	DRAWN: 03/07/18	DATE: 06/09/18
PROJECT No: 70041922	DRAWING No: v1	REV: 0.1

Appendix J

BATS



wsp



- LEGEND:**
- Study_Area
 - 2km Study Area
 - Barbastelle

STATUS:
FOR INFORMATION ONLY



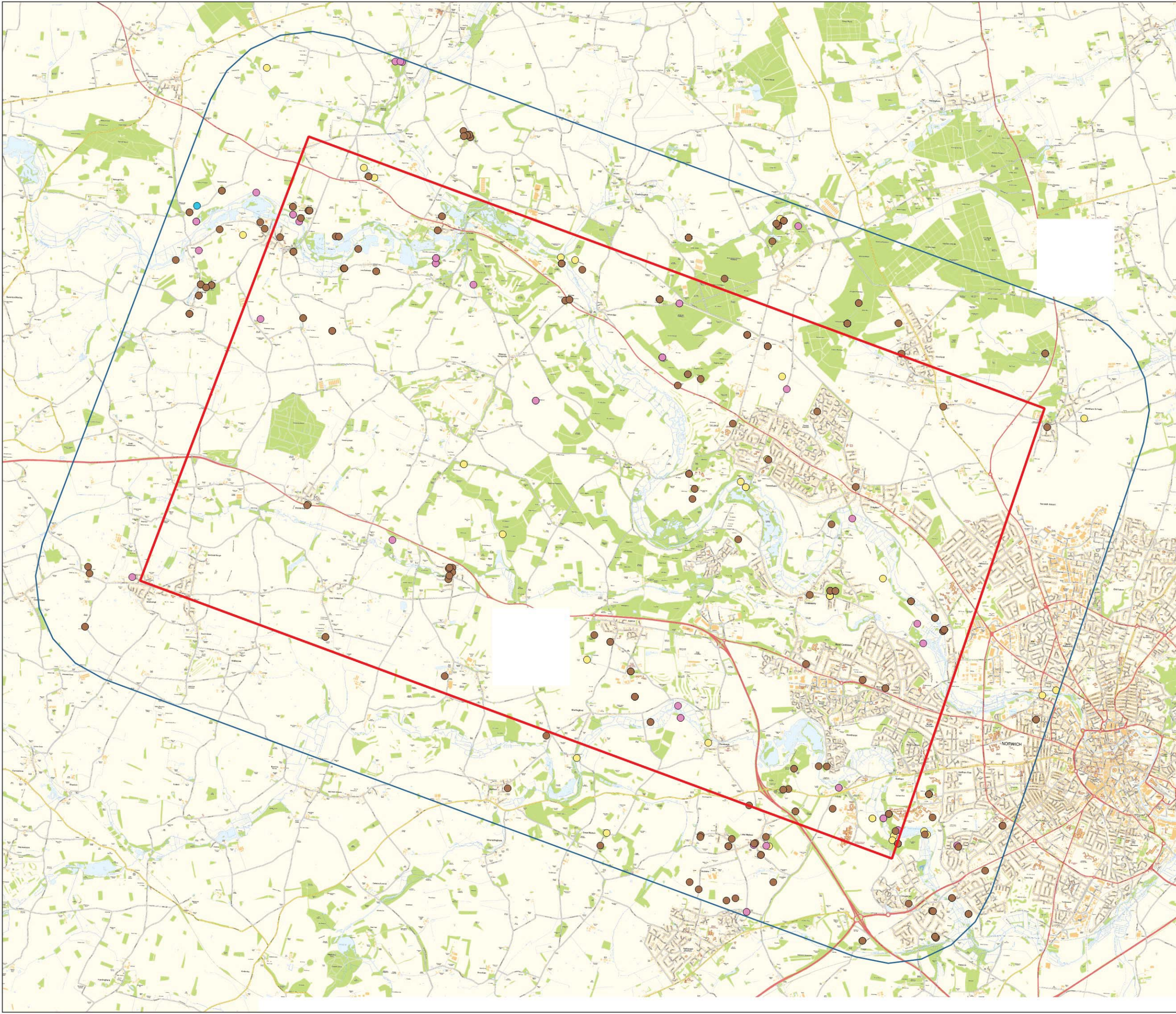
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CLIENT: **NORFOLK COUNTY COUNCIL**

PROJECT:
NORWICH WESTERN LINK

TITLE:
Barbastelle records

SCALE @A3: 1:110,657	CHECKED: MG	APPROVED: SY
QGIS FILE: v1	DRAWN: 03/07/18	DATE: 04/07/18
PROJECT No: 70041922	DRAWING No: v1	REV: 0.1



LEGEND:

- Study Area
- 2km Study Area
- Brown Long-eared Bat
- Daubenton's Bat
- Natterer's Bat
- Whiskered/Brandt's Bat

STATUS:
FOR INFORMATION ONLY



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CLIENT: **NORFOLK COUNTY COUNCIL**

PROJECT:
NORWICH WESTERN LINK

TITLE:
Bat records Page 1

SCALE @A3: 1:110,657	CHECKED: MG	APPROVED: SY	
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PROJECT No: 70041922	DRAWING No: v1	REV: 0.1	