P/2010/00255

APPENDIX D2

Phase 1 Ecological Survey Report

baker
shepherd
gillespie

ECOLOGICAL CONSULTANTS
Limited Liability Partnership

National Football Centre, Burton-upon-Trent
Ecological Survey Report

December 2008

Final

Our ref: Addendum to Phase 1 Habitat Report.doc

Your ref:

12th February 2010

baker shepherd gillespie

ECOLOGICAL CONSULTANTS

Limited Liability Partnership

Arden House
Deepdale Business Park
Ashford Road
Bakewell
DE45 1GT
Tel: 01629 815544
Fax: 01629 815577

Re: Addendum to Phase 1 Habitat Report

The Phase 1 Habitat survey and report were commissioned in 2008. At this time the proposed layout and the areas of the site to be affected by the national football centre and hotel facility and the residential housing development were quite different. In this report we carried out an initial assessment of potential impacts. Since these initial proposals, the layout of the national football centre and hotel facility and the residential development have changed significantly some of the initial conclusions in relation to impacts which were set out in the report are no longer valid. For this reason, whilst the survey results and habitat plan remain valid, the initial impact assessment information has been superseded by the detailed impact assessment within the ecology chapter of the environmental statement and the cumulative impact assessment.

baker shepherd gillespie

ECOLOGICAL CONSULTANTS
Limited Liability Partnership

Client	Davis Langdon
Job Name	National Football Centre
Report title	Phase 1 Habitat Survey
File reference	3776_003_rep_ks_dl.doc

	Signed	**Name**	**Position**	**Date**
Originated		Katy Stiles	Senior Ecologist	23/11/08
Reviewed		Philippa Harvey	Principal Ecologist	25/11/08

ISSUING OFFICE:

Arden House Deepdale Business Park
Ashford Road Bakewell
Derbyshire DE45 1GT
TEL: 01629 815544
FAX: 01629 815577

Report Contents

1 Introduction

1.1 Site Description

The proposed site of the National Football Centre, Byrkley Park, is located approximately five miles west of Burton-upon-Trent in Staffordshire. The central OS grid reference for the site is SK 165 235. To the north west of the site is Tattenhill Airfield, to the south is open farmland and to the east is woodland and farmland.

1.2 Proposed Works

Planning consent was granted by East Staffordshire Borough Council in 2001[1] for the development of the National Football Centre. The permission permits:

"Development of the National Football Centre to include the erection of buildings to accommodate an indoor synthetic pitch and related activities, short term residential accommodation, media and office accommodation, associated facilities, the erection of three dwellings for staff accommodation, and the provision of outdoor pitches, car parks and the creation of a new access".

As part of this previous planning application an ecological assessment was carried out by Ecological Planning and Research (EPR) in June 2001. This provided the results of survey work completed in May and June 2001. In summary, the following aspects were covered: detailed habitat descriptions and vegetation communities, mammals, birds, amphibians and reptiles, fish, aquatic invertebrates and terrestrial invertebrates.

To date the following works have been completed:

- Maintenance building
- Three building services plant areas
- Three pitch side seminar rooms
- Seven grass pitches and associated floodlighting
- Two synthetic pitches with associated floodlighting
- Goalkeeper practice area and floodlighting
- Two boiler houses
- Five oil tanks
- Two oil tank bunds
- Irrigation tank and pump house.

A new planning application is to be submitted in early 2009 with an Environmental Impact Assessment for the remainder of the development proposals, namely the construction of an indoor pitch with associated facilities, the construction of a hotel and conference facilities and a new proposal, the erection of 34 residential properties. These proposals are shown on plans in Appendix 1.

1.3 Aims of Study

Baker Shepherd Gillespie (BSG) has been commissioned by Davis Langdon on behalf of The Football Association (FA) to undertake an ecological survey of the site to support the new planning application.

[1] East Staffordshire Borough Council Application Number PA/16573/010

The aim of the study is to:

- Carry out an updated Phase 1 Habitat survey, including a check of the site for protected species and an assessment of the sites' potential to support protected species, such as badgers *Meles meles*, great crested newts *Triturus cristatus* and bats;

- Produce a report to establish the baseline position with regard to ecological factors, to identify any ecological constraints that may arise as a result of the proposed development, and to make recommendations for further survey work and potential mitigation measures, as appropriate.

2 Methodology

2.1 Desk Study

Staffordshire Ecological Record were contacted to provide records of designated sites and protected species for a 3km radius around central OS grid reference SK 165 235.

Ian Wallace, a local naturalist who has been conducting bird surveys at the site since 2001, was approached for survey information for the site. The results of his surveys are presented in the main body of the report and referenced where appropriate.

2.2 Field Survey

Walkover Phase 1 Habitat Survey

Senior Ecologist Katy Stiles MIEEM carried out a walkover Phase 1 Habitat Survey on the 3rd and 8th September and the 8th October 2008. The weather during the surveys in September was breezy and overcast with showers, and was fine with sunny spells during the October survey. The site was walked, focussing on the areas that are to be directly affected by the proposed development and re-checking the other areas of the site to determine if they have changed since the previous ecological survey work completed by EPR in June 2001.

The terrestrial and aquatic habitats were assessed for their potential to support amphibians and reptiles. Searches were made for the presence of badgers *Meles meles*, such as setts, latrines, prints and hairs. Trees within and close to the development area were assessed for their potential to support roosting bats, such as the presence of woodpecker holes, loose bark and cavities, and evidence of roosting bats was searched for, such as characteristic staining, bat droppings and chattering bats.

In addition, a search was made for the presence of the invasive weed Japanese knotweed *Fallopia japonica*.

Reptile survey

Thirty three reptile refugia were put out across the site on 11th September 2008, focussing on the areas of suitable habitat and within the areas of proposed development. A combination of coroline corrugated sheets and bitumen felt refugia were used, and the locations are shown on the plan in Appendix 3. The surveyors, dates and weather conditions for the subsequent number of surveys are shown in Table 1. The survey visits involved walking through the site, searching vegetation with close-focussing binoculars and checking on top and below the refugia for reptiles.

Table 1: reptile survey information

Survey date	Survey Times	Surveyor	Weather conditions
19th September 2008	1500-1600	Guy Miller and Paul Howden-Leach	Sunny and still. 22°C
24th September 2008	1030-1200	Sam Mellor	Cloudy and breezy. 12.5°C at the start of the survey and 15.5°C at the end.
2nd October 2008	1215-1345	Sam Mellor	10.5°C at the start of the site and 10.7°C at the end.
8th October 2008	1145-1245	Katy Stiles	Light breeze, partial cloud and sunny spells. 17.8°C at the start of the site and 17°C at the end.
8th October 2008	1500-1600	Katy Stiles	Light breeze, sunny spells and some cloud. 18.1°C at the start of the site and 14.9°C at the end.

Tree Climbing Bat Survey

The mature ash tree located within the centre of the site was surveyed for the presence of bats by Senior Ecologists Paul Howden-Leach MIEEM and Guy Miller MIEEM on 19th September 2008. The tree was climbed using roped access and features with potential to support bats were inspected with an endoscope.

3 Results

3.1 Desk Study

The full results of the desk study are presented in Appendix 2. Relevant sections of the data trawl are summarised in the sections that follow.

3.1.1 Designated Sites

Staffordshire Ecological Record provided records for ten non-statutory Sites of Biological Importance (SBIs) for the area of search. Two of these SBIs, Byrkley Park and Lin Brook, are within the survey site. These are described in more detail below.

Byrkley Park SBI is designated for its wood-pasture and parkland habitats. The main feature of the site is the veteran trees. This site is 67 hectares.

The Lin Brook SBI is designated for its woodland, scrub, grassland and standing and running water habitats. In summary, it is described as a wooded stream valley with small areas of unimproved grassland and scrub. The site is approximately 9.9ha.

Eleven records for Biodiversity Alert Sites (BAS) were provided. None of these sites are present within the survey site or immediately adjacent. The nearest site is the "A515" site which is highlighted for its grassland and boundary features. This is immediately adjacent to the northern boundary of the site.

3.1.2 Protected Species

3.1.2.1 Bats

A number of bat records were provided for the area of search. These were for noctule *Nyctalus noctula*, common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus* bat species. None of these records were for the survey site itself. The nearest record is approximately 1.5 km to the south west of the site.

3.1.2.2 Great crested newt

One great crested newt record was provided as part of the data search. This record is for approximately 1.25 km to the south of the survey site.

3.1.2.3 Reptiles

Grass snake *Natrix natrix* and viviparous lizard *Lacerta vivipara* records were provided for the area of search. These records date from 1959 and 1960 for OS grid square SK 15 24, which is a minimum of 0.25 km from the proposed development site.

3.1.2.4 Badgers

Four badger records were provided for the area of search. None of these records relate directly to the site and the nearest record is for approximately 0.25 km from the site.

3.1.3 Rare Habitats/Species

A number of species listed under Section 41 of the NERC Act 2006 (these are species of Principal Importance for the conservation of biological diversity in England), listed as a Priority Species on the UK BAP and Local BAP were provided for the area of search. None of these records are provided for the survey site. The records provided include mammal species such as brown hare *Lepus europaeus*, bird species such as barn owl and bullfinch and a range of invertebrates.

3.2 Field Survey

3.2.1 Habitat Description

The locations of the habitats described below can be found on Figure 1, the Phase 1 Habitat Survey Plan, in Appendix 3. Target Note (TN) locations referred to in the text are also shown on Figure 2.

<u>Wood pasture/Parkland (TN1)</u>
Wood pasture/parkland dominates northern and western parts of the site and a small area to the east of the Lin Brook. These areas are characterised by the presence of mature and veteran pedunculate oak *Quercus robur*, common lime *Tilia X europaea* and horse chestnut *Aeseculus hippocastanum* trees. Many of the oak trees display signs of great age including "stag-headed" appearance, dead limbs, loose bark and standing dead wood. Fallen dead wood is also associated with many of these trees (see Photos 1 & 2).

Groundcover vegetation in the wood pasture/parkland is mainly improved, some of which is cattle grazed. Species within the grassland include perennial rye-grass *Lolium perenne*, Yorkshire fog grass *Holcus lanatus*, cock's foot *Dactylis glomerata*, annual meadow grass *Poa annua*, creeping thistle *Cirsium arvense*, white clover *Trifolium repens*, creeping buttercup *Ranunculus repens* and spear thistle *Cirsium vulgare*.

Within the western wood pasture (TN2) the grassland is unmanaged and tussocky. Few herbs are present and the grassland is dominated by the grasses cock's foot, meadow foxtail *Alopecurus pratensis* and Yorkshire fog.

Photo 1: View of a veteran tree within the wood pasture

Photo 2: Typical view of the wood pasture/parkland

Woodland

Kidney Plantation Woodland (TN3)

This is a mixed plantation, located to the south west of the site. The tree canopy is characterised by sycamore *Acer pseudoplatanus*, pedunculate oak, silver birch *Betula pendula*, common lime, willow *Salix* sp., wych elm *Ulmus glabra*, Scot's pine *Pinus sylvestris* and silver fir *Abies alba*. The understorey is dominated by bramble *Rubus fruticosus*, with rhododendron *Rhododendron* sp., holly *Ilex aquifolium* and hawthorn *Crataegus monogyna* also occurring. The field layer is generally species-poor.

Oak Copse (TN4)

This is a small wooded area located within the unimproved neutral grassland in the centre of the site. Mature and semi-mature oak trees are present around a deep dell that appears to be seasonally damp. Shrub and ground flora species include bramble, raspberry *Rubus idaeus*, common nettle *Urtica dioica*, wild angelica *Angelica sylvestris*, elder *Sambucus nigra*, common hawthorn, ash *Fraxinus excelsior*, holly and broad-buckler fern *Dryopteris dilatata*.

Wellingtonia Stand (TN5)

This is a small stand of Wellingtonia *Sequoiadendron giganteum* trees located within an arable field (TN 4). The ground flora is generally species-poor with bracken *Pteridium aquilinum* and common nettle dominating.

Byrkley Gorse (TN6)

This is an area of dense broad-leaved woodland located to the west of the site. It is characterised by silver birch, sycamore, pedunculate oak, common lime, cherry *Prunus* sp. and horse chestnut. Hawthorn, elder, bramble and blackthorn *Prunus spinosa* understorey is present, and rhododendron is dominant in places.

North-east Woodland (TN7)

This is a small triangle of woodland located to the north-east of the site. Species within the woodland include pedunculate oak, hawthorn and holly.

South-east Woodland and Pond (TN8)

This is an area of semi-natural broad-leaved woodland comprising oak (including a veteran tree), elder, hawthorn, holly and willow, which is located to the south-east of the study area, outside

the development site. Bracken dominates the ground flora. It includes a large pond on the course of a stream within its centre with reed canary grass and willowherb vegetation on the pond margins.

New tree planting
Areas of new tree planting are located along the western and southern boundary of the site and close to the irrigation building. Species within these areas include pedunculate oak, willow, elder, hazel *Coryllus avellana*, guelder rose *Viburnum opulus*, ash and birch. These trees are young and in the majority of cases the tree guards are still present.

Copses east of the Lin Brook
Three copses are present within arable fields to the east of the Lin Brook. The copse furthest to the north (TN9) is dominated by elder and common nettle and a main badger sett is located within it. Close to the Wellingtonia Plantation is a small copse (TN10) dominated by horse chestnut, pedunculate oak and rhododendron. Further to the south is a larger copse, known as Sycamore Copse (TN11) close to the woodland associated with the Lin Brook. Elm, sycamore and elder occur in the canopy and shrub layer. Ivy *Hedera helix*, bramble, red campion *Silene dioica* and wood sorrel *Oxalis acetosella* are present in the ground layer.

Of note, close to the small copse at TN9 is a group of small leaved limes Tilia cordata (TN12) that are considered to be of veteran status

Hedgerows
Species-rich hedgerows with and without trees are present along the southern and lower part of the western boundaries. Species within these hedgerows include hawthorn, pedunculate oak, ash, rose *Rosa* sp. and elder. In addition, on the upper western boundary adjacent to the wood pasture, a species-poor hedgerow without trees is present. This is a dense intact hedgerow supporting elder, hawthorn and bramble. A species-poor hedgerow with trees is located on the east boundary at the north end of the site. The south end of the hedgerow connects to mature broadleaved woodland and the north end is connected to a mature oak plantation (TN7) that is next to the site entrance.

The northern boundary of the site, either side of the entrance gate, supports species-poor hawthorn dominated hedgerows.

Grassland
A large area of unimproved neutral grassland (TN 13, see Photo 3) is located to the east of the site and extends along the western edge of the Lin Brook, surrounding one of the turf pitches to the north east of the site. The grassland has a tussocky, dense sward that is currently unmanaged. Characteristic species include cock's foot, false oat-grass *Arrhenatherum elatius*, Yorkshire fog, couch grass *Elymus repens*, red rescue *Festuca rubra*, tufted hair-grass *Deschampsia cespitosa*, Italian rye-grass *Lolium multiflorum*, ribwort plantain *Plantago lanceolata*, greater plantain *Plantago major*, yarrow *Achillea millefolium*, hogweed *Heracleum sphondyllium*, creeping thistle, nettle, broad-leaved dock *Rumex obtusifolius*, creeping buttercup, red clover *Trifolium pratense*, self-heal *Prunella vulgaris*, cowslip *Primula veris*, cleavers *Galium aparine*, rosebay willowherb *Chamerion angustifolium* and great willowherb *Epilobium hirsutum*. Along the track edges within the areas of less dense vegetation, bird's foot-trefoil *Lotus corniculatus*, common sorrel *Rumex acetosa* and common knapweed *Centurea nigra* also occur.

To the south of this grassland near to the Oak Copse is an area of marshy grassland (TN14, see Photo 5), which is characterised by hard rush *Juncus inflexus*, compact rush *Juncus conglomerata*, soft rush *Juncus effusus* and ragged robin *Lychnis flos-cuculi*. Within the drier areas of grassland adjacent to the marshy grassland bush vetch *Vicia sepium*, field woundwort *Stachys arvensis* and lady's-mantle *Alchemilla vulagris* agg occur.

To the south west of the site close to the irrigation building is an area of grassland that has developed over a stony substrate on disturbed ground. This is charaterised by sweet vernal grass *Anthoxanthum odoratum*, crested dog's-tail *Cyosaurus cristatus*, Yorkshire fog, broad-leaved dock, wild carrot *Daucus carota* and extensive bird's foot-trefoil. Further to the south is an area of unimproved neutral grassland that extends to the Lin Brook which has scattered scrub and new tree planting within it. This grassland is characterised by Yorkshire fog, false oat-grass, cock's foot, ribwort plantain and cat's ear *Hypochaeris radicata*. Compact rush occurs occasionally.

Photo 3: View of the unimproved neutral grassland

Photo 4: View of the marshy grassland

Ten artificial and grass turf pitches are present within the site.

Arable Fields

Two arable fields (see Photo 5) are located to the east of the Lin Brook. At the time of the survey these fields had been planted with a vegetable crop and had been recently sprayed.

Photo 5: View of one of the arable fields

Water courses

The Lin Brook (TN15) enters the site at the north from the B5234 and for approximately 500 metres flows along an open course through the wood pasture/parkland and grazed pasture (see Photo 6). A tributary joins the Lin Brook approximately mid-way along this section. This tributary has vegetated banks with scattered trees and scrub, including common hawthorn, bramble and elder. Where the two watercourses join, a wider slow-flowing area has developed, with creeping bent *Agrostis stolonifera* and brooklime *Veronica beccabunga* present. As the Lin Brook flows south, scattered scrub is present along the banks. Further downstream the Lin Brook flows into two large ponds is controlled by a series of stone weirs. Flowing out from the ponds, the Lin Brook is designated as a Site of Biological Importance (TN16). This section is characterised by the

presence of broad-leaved woodland on both sides. Species within the woodland include alder *Alnus glutinosa*, oak, sycamore, ash and beech *Fagus sylvatica*. Understorey species include elder, hawthorn, holly and rhododendron.

A narrow ditch (TN17) enters the site on the western boundary close to the centre of the Kidney Plantation. The ditch is lined with scattered scrub vegetation, including holly, hawthorn and silver birch, and a mature oak tree. Very little water was present at the time of survey. A post and wire fence is present along the southern part of the ditch. The ditch enters a culvert close to the Kidney Plantation. Wet and dry ditches are also present along the southern boundary of the site associated with the boundary features.

Ephemeral/Short Perennial Vegetation

Within the centre of the site where the site has been previously cleared, ephemeral/short perennial vegetation (TN18, see Photo 7) has established over rubble and bare ground. This forms an extensive area within the centre of the site. Typical species within this area include groundsel *Senecio vulgaris*, red bartsia *Odontites verna*, common dandelion *Taraxacum officinale*, scentless mayweed *Tripleurospermum martitimum*, common catsear, autumn hawkbit *Leontodon autumnalis*, marsh cudweed *Gnaphalium uliginosum*, Canadian fleabane *Conyza canadensis*, prickly sowthistle *Sonchus asper*, black medick *Medicago lupulina*, colt's foot *Tussilago farfara*, Yorkshire fog, creeping buttercup *Ranunculus repens*, knotgrass *Polygonum aviculare*, ragwort *Senecio jacobea*, skullcap *Scutellaria galericulata*, creeping bent, common bent *Agrostis capillaris*, greater plantain *Plantago major*, hairy sedge *Carex hirta* and common sedge *Carex nigra*.

Photo 6: View of the Lin Brook at the north of the site

Photo 7: View of the ephemeral/short perennial vegetation

Ponds

Four linear, concrete-lined ponds (TN19) are located within the centre of the site and have developed over the last four years, since the site was cleared (see Photos 8). Three of these ponds are approximately 5 metres wide by 60 metres in length, and at the end of one of these ponds is a shallower area of water measuring approximately 60m^2. Bulrush *Typha latifolia* dominated swamp vegetation has developed in the shallower ends of these ponds (see Photo 9) Other species include great willowherb *Epilobium hirsutum*, hard rush *Juncus inflexus*, jointed rush *Juncus articulatus* and compact rush *Juncus conglomerata*. Broad-leaved pondweed *Potamogeton natans* and a stonewort *Chara vulgaris* agg. were also recorded. The fourth pond is again linear but is smaller, being approximately 20 metres in length and 2 metres wide.

Photo 8: View of one of the linear ponds

Photo 9: View of the swamp vegetation

A pond is located off-site immediately adjacent to the western boundary (TN20, see Photo 10). The pond is located within an area of plantation woodland and scrub (see Photo 11). Bulrush is present around the whole of the periphery of the pond and no aquatic vegetation was noted. The pond appears to be deep and the water was turbid at the time of the survey. No fish or waterfowl were noted.

Photo 10: View of the off-site pond on the western boundary

Photo 11: View of the broad-leaved woodland and scrub

Associated with the Lin Brook are two large ponds, known as the Upper and Lower Ponds (TN21, see Photos 12 and 13). The western boundary of both of the ponds is dominated by a dense area of scrub, including grey willow *Salix cinerea*, hawthorn, oak, alder, rose, gorse *Ulex europaeus* and crack willow *Salix fragilis*.

The Upper Pond was very turbid at the time of the survey and there was limited aquatic vegetation. Bulrush swamp vegetation is present in the northern part of the pond.

The Lower Pond is separated from the Upper Pond by a stone weir and is similar to the Upper Pond, but has more aquatic vegetation in the shallows including amphibious bistort *Persicaria amphibia*, water forget-me-not *Myosotis scorpioides* and gipsywort *Lycopus europaeus*.

Photo 12: View of the Lower Pond

Photo 13: View of the Upper Pond

To the north east of the site is an unmanaged pond within an area of heavily grazed improved pasture (TN22, see Photo 14). No open water is present and the surface is entirely covered with floating-sweet grass *Glyceria fluitans*. Some stands of common nettle and scattered hawthorn scrub are present around the edges. The pond shows signs of poaching from cattle.

Photo 14: View of the pond to the north east of the site

On the eastern boundary of the site within an area of dense scrub and tall herb vegetation is a large pond on the course of a stream (TN23). This pond could not be surveyed in detail because of the density of the surrounding vegetation.

3.2.1.1 Invasive species

No Japanese knotweed was recorded within the survey area.

3.2.2 Protected Species

3.2.2.1 Bats

3.2.2.1.1 Buildings

No buildings are present within the area of land proposed for the new football centre.

New buildings are present across the site that were constructed as part of the works that have been completed under the previous planning permission. This includes the grounds maintenance building (TN24), which, as part of the development had a bat box incorporated into the design. No bats are known to use this bat box (perrs comm. Ian Wallace).

Old RAF buildings (TN25, see Photo 15) are located within the parkland to the north west of the site. No evidence of the presence of bats was recorded in association with these buildings, and they are considered to have limited suitability to support roosting bats due to their open draughty nature and lack of roosting features, such as gaps in the brick work or enclosed roof spaces.

A small pitched roof, red-brick building, known as the Well House (TN26, see Photo 16), is located within the centre of the site and is considered to have some potential to support roosting bats, due to the presence of missing slates that could allow bats access into the building. Adjacent to this is the Ice House (TN27, see Photo 17). Internal access could not be gained, however this building is considered to have some potential to support roosting bats, due to access being available through the grill in the door.

Photo 15: View of one of the disused RAF buildings

Photo 16: View of the Well House

Photo 17: View of the Ice House

3.2.2.1.2 Trees

Mature and veteran trees are present within the areas of wood pasture and are scattered within the site boundary. The majority of these have moderate to high potential to support roosting bats due to the presence of suitable bat roosting features such as loose bark, rot holes, splits and dead limbs. No signs of bat roosts were identified.

A mature ash tree (TN28) is located within the centre site. This tree has suitable features to support roosting bats, but no evidence of their presence was identified from the tree climbing survey. This tree was surveyed in more detail due to the possibility of its removal. It should be noted however that the layout for the National Football centre has been altered to allow for its retention.

3.2.2.2 Foraging

The habitats on site are considered likely to support feeding and foraging bats, in particular the standing and flowing water, wood pasture/parkland, hedgerows and woodland edges.

3.2.2.3 Birds

No nesting birds were recorded during any of the surveys on site due to the timing of this work. However, the site supports habitats that are considered likely to be key areas for birds in terms of nesting and feeding including the woodlands, wood pasture/parkland, the Lin Brook and associated woodland; and the hedgerows. A range of bird species have been recorded by Ian Wallace between 2001 and 2007, and those listed on the red or amber list, and that are UK BAP Priority Species and Species of Principal Importance are detailed below in Table 2.
The birds of conservation concern (BOCC) listing assesses bird species on the basis of their population status, reflecting changes in their abundance and range.

'Red List' species are of high nature conservation concern and are those that are Globally Threatened according to international (IUCN) criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically. The reasons for these declines are likely to vary between species and although they are not fully understood, they are commonly associated with changes in farming practices over the same period[2].

Amber List species are of medium conservation concern, and are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations.

Table 2: bird records

Species	Habitat Association on Site	Conservation concern[3]	UK BAP Priority Species & Species of Principal Importance
Shoveler *Anas clypeata*	Ponds associated with Lin Brook	Amber	-
Kingfisher *Alcedo atthis*	Ponds associated with Lin Brook	Amber	-
Green woodpecker *Picus viridis*	Woodland	Amber	-
Marsh tit *Parus palustris*	Lin Brook	Red	✓
Willow tit *Parus montanus*	Thickets associated with the Lin Brook thickets	Red	✓
Teal *Anas crecca*	Lin Brook Ponds	Amber	-
Fieldfare *Turdus pilaris*	Copses and grazed pastures.	Amber	-
Redwing *Turdus iliacus*	Copses and grazed pastures.	Amber	-
Bullfinch *Pyrrhula pyrrhula*	Lin Brook	Red	✓
Golden oriole *Oriolus oriolus*	Woodland	Amber	-
Little ringed plover	Ephemeral/short	Amber	-

[2] Sirawardena, G.M., Baillie, S.R., Buckland, S.T., Fewster, R.M., Marchant, J.H. and Wilson, J.D., 1998. *Trends in the abundance of farmland birds: a quantitative comparison of smoothed Common Birds Census indices.* Journal of Applied Ecology 35: 24-43.
[3] Gregory et al (2002). *The population Status of Birds in the UK,, Channel Islands and Isle of Man: an analysis of conservation concern 2002-2007. British Birds 95: 410-450*

Species	Habitat Association on Site	Conservation concern[3]	UK BAP Priority Species & Species of Principal Importance
Charadrius dubius	perennial vegetation		
Tree sparrow *Passer montanus*	Ephemeral/short perennial vegetation	Red	✓
Reed bunting *Emberiza schoeniclus*	Ponds associated with Lin Brook	Red	✓
Meadow pipit *Anthus pratensis*	Pitches	Amber	-
Honey buzzard *Pernis apivorus*	Seen over site	Amber	-
Garganey *Anas querquedula*	Lin Brook Ponds	Amber	-
Gadwell *Anas stepera*	Lin Brook Ponds	Amber	-
Pochard *Aythya ferina*	Lin Brook Ponds	Amber	-
Bittern *Botaurus stellaris*	Lin Brook Ponds	Red	✓
Kestrel *Falco tinnunculus*	Hunting over grassland	Amber	-
Merlin *Falco columbarius*	Flying over the site	Amber	-
Grey partridge *Perix perdix*	Ephemeral/short perennial vegetation	Red	✓
Common snipe *Gallinago gallinago*	Upper Pond	Amber	-
Woodcock *Scolopax rusticola*	Lin Brook	Amber	-
Cuckoo *Cuculus canorus*	Heard only	Amber	-
Barn owl *Tyto alba*	Veteran trees and grassland	Amber	-
Lesser spotted woodpecker *Dendrocopos minor*	Wood-pasture and parkland	Red	-
Tree pipit *Anthus pratensis*	Lin Brook	Amber	-
Redstart *Phoenicurus phoenicurus*	Lin Brook above the ponds	Amber	-
Mistle thrush *Turdus viscivorus*	Hedgerows	Amber	-
Willow warbler *Phylloscopus trochilus*	Lin Brook	Amber	-
Spotted flycatcher *Muscicapa striata*	East of the Lin Brook on eastern site boundary	Red	✓
Redpoll *Carduelis flammea*	In weeds associated with new tree planting	Amber	-

Species	Habitat Association on Site	Conservation concern[3]	UK BAP Priority Species & Species of Principal Importance
Reed bunting *Emberiza schoeniculus*	Lin Brook Ponds	Red	✓
Stock dove *Columba oenas*	Mature oak trees	Amber	
Skylark *Alauda arvensis*	Heard over irrigation building	Red	✓
House martin *Delichon urbica*	Lin Brook Ponds	Amber	-
Nightingale *Luscinia megarhynchos*	Below the Lower Pond	Amber	-
Grasshopper warbler *Locustella naevia*	Heard only	Red	✓
Starling *Sturnus vulgaris*	Grassland	Red	✓
Yellowhammer *Emberiza citrinella*	New tree planting to the south and west of the site	Red	✓
Lapwing *Vanellus vanellus*	Ephemeral/short perennial vegetation	Amber	-
Lesser black-backed gull *Larus fuscus*	Pitches	Amber	-
Swallow *Hirundo rustica*	Feeding over pitches	Amber	-

3.2.2.4 Great crested newts and other amphibians

Nine ponds were located within the survey area including one that is present off-site on the western boundary. Further detail of these ponds is provided within Section 3.2.1. No specific surveys to determine the presence or absence of great crested newts within these waterbodies has been undertaken, due to seasonal constraints. Six of these ponds, (TNs 18, 19 and 21) are considered to be suitable to support great crested newts with suitable egg laying material, open water and lack of wildfowl. Suitable terrestrial habitat is present within the site to support amphibians, including the unimproved neutral grassland, woodland and wood pasture/parkland. At this stage, however, due to the lack of survey work, the presence or absence of great crested newts in any of the water bodies cannot be discounted.

Two juvenile female great crested newts were recorded on site, one under a piece of plyboard associated with the linear ponds in the centre of the site and one approximately twenty metres from the ponds under a reptile mat. It is considered likely that these two newts are the same individual. In addition, a young smooth newt *Triturus vulgaris*, common toad *Bufo bufo* and common frog *Rana temporaria* were also recorded.

3.2.2.5 Badgers

A main badger sett was recorded within the Wellingtonia Stand (TN29), to the east of the site, which was previously identified during the survey work carried out by EPR. Thirty nine active sett entrances were identified, during the current survey, some of which had fresh bedding in the entrances. Numerous well-worn tracks were noted throughout the bracken and two fresh dung pits were recorded.

A further main badger sett was recorded within a small copse located to the east of the Lin Brook (TN30). This sett has thirteen active sett entrances, several well-worn tracks and one fresh dung pit.

No other signs of badgers were identified on site.

3.2.2.6 Reptiles

No reptiles have been recorded during the reptile surveys.

3.2.3 Rare Habitats/Species

3.2.3.1 Brown hare

Brown hare is listed under Section 41 of the NERC Act 2006 and is a UK and Local Biodiversity Action Plan (BAP) Priority Species of high conservation concern. Four brown hares were recorded during the site surveys. Two of these hares were recorded within the unimproved neutral grassland to the east of the site between the Lin Brook and a turf pitch, one was located on a grass embankment associated with a turf pitch to the south of the site and one was associated with the small copse to the east of the Lin Brook. These are highlighted by TN31 on the Phase 1 Habitat Survey Plan.

3.2.3.2 Hedgehog

A hedgehog *Erinaceus europaeus* was recorded by Ian Wallace in 2007.

3.2.4 Other Habitats/Species

The following invertebrates have been recorded by Ian Wallace during bird surveys at the site.

Common name	Latin name	Conservation Status	UK BAP Priority Species of Conservation Concern
Butterflies			
Small skipper	*Thymelicus sylvestris*	Common and widespread	No
Large skipper	*Ochlodes sylvanus*	Common and widespread	No
Large white	*Pieris brassicae*	Common and widespread	No
Small white	*Pieris rapae*	Common and widespread	No
Green-veined white	*Pieris napi*	Common and widespread	No
Small copper	*Lycaena phlaeas*	Widespread	No
Common blue	*Polyommatus icarus*	Common and widespread	No
Holly blue	*Celastrina argiolus*	Widespread*	No
Red admiral	*Vanessa atalanta*	Common and widespread	No
Painted lady	*Vanessa cardui*	Common and widespread	No
Small tortoiseshell	*Aglais urticae*	Common and widespread	No
Peacock	*Inachis io*	Common and widespread	No
Comma	*Polygonum c-album*	Common and	No

		widespread	
Speckled wood	*Pararge aegeria*	Common and widespread	No
Gatekeeper	*Pyronia tithonus*	Common and widespread	No
Meadow brown	*Maniola jurtina*	Common and widespread	No
Small heath	*Coenonympha pamphilus*	Declining in UK	Yes
Dragonflies & Damselflies			
Beautiful demoiselle	*Calopteryx virgo*	Locally abundant	No
Large red	*Pyrrhosoma nymphula*	Common and widespread	No
Common blue	*Enallagma cyathigerum*	Common and widespread	No
Common hawker	*Aeshna juncea*	Common and widespread in the north and west, locally abundant elsewhere	No
Migrant hawker	*Aeshna mixta*	Common in the south, regular migrant	No
Southern hawker	*Aeshna cyanea*	Common in the south, locally abundant elsewhere	No
Brown hawker	*Aeshna grandis*	Common and widespread[£]	No
Emperor	*Anax imperator*	Common and widespread	No
Broad-bodied chaser	*Libellula depressa*	Common in the south of England, occasional migrant	No
Black-tailed skimmer	*Orthetrum cancellatum*	Locally abundant, increasing range	No
Common darter	*Sympetrum striolatum*	Common and widespread, regular migrant	No
Ruddy darter	*Sympetrum sanguineum*	Locally abundant, increasing range	No
Black darter	*Sympetrum danae*	Locally abundant, irregular migrant	No

*Protected in Northern Ireland
[£] Absent from Wales and south-western England

4 Assessment

4.1 Constraints on Study Information

The density of the vegetation within many of the woodlands on site made a through and detailed inspection for the presence of badgers difficult. This is not considered to be a particularly

significant constraint as the proposed developments will not have an impact on these habitats and is located more than thirty metres from the development boundaries.

It has not been possible, due to the timing of the commission, to carry out great crested newt surveys of the ponds within the site and off-site.

4.2 Potential Impacts

4.2.1 Designated Sites

No statutory sites of nature conservation interest are present within the site or immediately adjacent to the site boundary. Two Sites of Biological Importance, SBIs, which are non-statutory sites that are important at a County Level, are present on site.

The Lin Brook, SBI, is present within the site boundary, to the south east of the site. Byrkley Park, SBI, is present within the site boundary.

The proposed housing development will be immediately adjacent to the western boundary of the Byrkley Park SBI. This development could have an adverse impact on the SBI, through construction work and increased public disturbance in the short and long-term. The proposed National Football Centre will be within the centre of the Byrkley Park SBI. It is not considered likely to have a significant impact on the SBI because the development will be mainly situated on the area of already cleared land.

4.2.2 Habitats

Planning Policy Statement 9: Biodiversity and Geological Conservation (PPS9) was published in August 2005 and provides a list of key principles to which local planning authorities and other decision makers should adhere to in order to assure conservation of biodiversity. Of particular relevance is Key Principle vi, which states that the aim of planning decisions should be to prevent harm to biodiversity interests and where granting planning permission would significantly harm those interests, the local planning authority "*will need to be satisfied that the development cannot be reasonably located on any alternative sites that would result in loss or no harm. In the absence of such alternatives, local planning authorities should ensure that before planning permission is granted, adequate mitigation measures are put in place. Where a planning decision would result in significant harm to biodiversity… which cannot be prevented or adequately mitigated against, appropriate compensation measures should be sought. If significant harm cannot be prevented, adequately mitigated against, or compensated for, then planning permission should be refused.*"

Paragraph 11 of PPS9 states the following in relation to habitats and species:

> *Through policies in plans, local authorities should also conserve other important natural habitat types that have been identified in the Countryside and Rights of Way Act 2000 section 41 list, as being of principal importance for the conservation of biodiversity in England and identify opportunities to enhance and add to them.*

Paragraph 12 of PPS9 states the following in relation to habitats:

> *Networks of natural habitats provide a valuable resource. They can link sites of biodiversity importance and provide routes or stepping stones for the migration, dispersal and genetic exchange of species in the wider environment. Local authorities should aim to maintain networks by avoiding or repairing the fragmentation and isolation of natural habitats through policies in plans. Such networks should be protected from development, and, where possible, strengthened by or integrated within it [cont…]*

Paragraph 14 of PPS9 states the following in relation to biodiversity within developments:

> *Development proposals provide many opportunities for building-in beneficial biodiversity or geological features as part of good design. When considering proposals, local planning authorities should maximise such opportunities in and around developments, using planning obligations where appropriate.*

The following UK BAP habitats of high conservation concern and Section 41 habitats of principal importance are of relevance to this site: ponds, hedgerows, open mosaic habitats on previously developed land, wood pasture and parkland and lowland mixed deciduous woodland.

In addition, native woodland, lowland wood pasture and parkland, unimproved neutral grassland and ponds and lakes are listed as habitats of conservation concern in the Staffordshire BAP.

The proposals to construct the National Football Centre will result in the loss of four ponds (TN15), the ephemeral/short perennial vegetation (that could be described as being an open habitat on previously developed land) and some unimproved neutral grassland. This will result in the complete or partial loss of habitats that are listed on the UK and local BAP and are listed as habitats of Principal Importance, and in the species that they support.

The proposals to construct 34 houses within parkland/wood pasture habitat to the north of the site will result in the loss of an area of wood pasture and parkland, including five trees, that is approximately 4.8 hectares in size. This will result in the partial loss of a habitat and in the species it supports, that is listed on the UK and local BAP and is a habitat of principal importance.

4.2.3 Protected Species

4.2.3.1 Bats

Bats are protected under the Wildlife and Countryside Act 1981 (as amended by the Crow Act 2000) and under the Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007. Taken together, these make it an offence to:

a. Deliberately capture or intentionally take a bat
b. Deliberately or intentionally kill or injure a bat
c. To be in possession or control of any live or dead wild bat or any part of, or anything derived from a wild bat
d. Damage or destroy a breeding site or resting place of a bat
e. Intentionally or recklessly obstruct access to any place that a bat uses for shelter or protection
f. Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection
g. Deliberately disturb any bat in such a way as to be likely significantly to affect;
    (i) the ability of any significant group of animals of that species to survive, breed or rear or nurture their young; or
    (ii) the local distribution or abundance of that species.

Seven bat species are on the UK Biodiversity Action Plan, and are listed as Species of Principal Importance under the provisions of the NERC Act 2006. PPS9 gives guidance on the treatment of Species of Principal Importance and states that local authorities should ensure that they are protected from the adverse effects of development, where appropriate, by using planning conditions or obligations.

No buildings or trees are to be demolished or felled as part of the proposed National Football Centre development and therefore no adverse impact on any bat roosts that may be present is anticipated. The mature and veteran trees within the parkland/wood pasture and the ice house and well house are considered to have potential to support bat roosts.

Bats are considered likely to be using the site for feeding and foraging, and it is considered that open water, open grassland, woodland, parkland/wood pasture and linear features such as hedgerows are likely to be the most important feeding features on site.

The loss of waterbodies, some unimproved neutral grassland and ephemeral/short perennial vegetation within the centre of the site is likely to result in the loss of some suitable feeding habitat for bats; however given the quality and extent of other habitats on site this is not considered likely to be a significant impact.

The construction of housing within the area of parkland/wood pasture to the north of the site; will result in the loss of five silver-leaved limes *Tilia tomentosa* trees. These trees are considered to have low potential to support roosting bats, and therefore an impact on bats is considered unlikely. It may be necessary to carry out works to trees associated with the housing development, and this work, if completed to trees with potential to support bats, has the potential to damage and destroy bat roost sites. The housing development will result in the loss of an area of approximately 4.8 hectares of wood pasture/parkland. Given the quality and extent of other habitats on site this is not considered likely to be a significant impact on foraging bats.

4.2.3.2 Birds

All nesting birds are protected under the Wildlife and Countryside Act 1981, which makes it an offence to kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition to this, for some rarer species (listed on Schedule 1 of the Act), it is an offence to disturb them while they are nest building or at or near a nest with eggs or young, or to disturb the dependent young of such a bird.

A number of bird species are also listed as Species of Principal Importance under the provisions of the NERC Act 2006. PPS9 gives guidance on the treatment of such species and states that local authorities should ensure that they are protected from the adverse effects of development, where appropriate, by using planning conditions or obligations.

The development of the National Football Centre will result in the loss of an area of ephemeral/perennial vegetation and cleared ground that has supported breeding little ringed plover in 2007. This bird species is listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and if works are carried out during the bird breeding season, then there is the potential for active little ringed plover nest sites to be damaged and disturbed contrary to legislation. The development will result in the loss of suitable breeding habitat for this species. The development will also result in the loss of some scattered scrub, unimproved neutral grassland and swamp vegetation that could also support breeding birds. If works are carried out during the bird nesting season then there is potential for active bird nests in these habitats to be damaged and destroyed. The development will result in the permanent loss of suitable bird nesting habitat.

The housing development will result in the loss of an area of wood pasture/parkland measuring approximately 4.8 hectares in size, including five trees. The loss of the trees may, depending on the timing of the work, result in active bird nests being damaged and destroyed. It is considered unlikely that nesting birds would be directly affected by the development; however there is potential for increased disturbance during construction work and increased public disturbance and predation from cats once the development has been completed.

4.2.3.3 Great crested newts

Great crested newts are protected under the Wildlife and Countryside Act 1981 (as amended by the Crow Act 2000) and under the Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007. Taken together, these make it an offence to:

a. Deliberately capture or intentionally take a great crested newt
b. Deliberately or intentionally kill or injure a great crested newt
c. To be in possession or control of any live or dead great crested newt or any part of, or anything derived from a great crested newt
d. Damage or destroy a breeding site or resting place of a great crested newt
e. Intentionally or recklessly obstruct access to any place that a great crested newt uses for shelter or protection
f. Intentionally or recklessly disturb a great crested newt while it is occupying a structure or place that it uses for shelter or protection
g. Deliberately disturb any great crested newt in such a way as to be likely significantly to affect;
    (i) the ability of any significant group of animals of that species to survive, breed or rear or nurture their young; or
    (ii) the local distribution or abundance of that species.

In addition, great crested newt is a UK Biodiversity Action Plan Priority Species and is listed as a Species of Principal Importance under the provisions of the NERC Act 2006. PPS9 gives guidance on the treatment of these species and states that local authorities should ensure that they are protected from the adverse effects of development, where appropriate, by using planning conditions or obligations.

Common frog, common toad and smooth newt is given partial protection by Section 9(5) of the Wildlife and Countryside Act 1981 (as amended). This legislation prohibits sale, transportation or advertising for sale.

A single female juvenile great crested newt was recorded twice during the Phase 1 Habitat survey and the reptile surveys. In addition, common toad, common frog and smooth newt have been recorded on site.

The development of the National Football Centre will result in the loss of the four linear ponds, considered to have potential to support great crested newts, and the loss of areas of sub-optimal and optimal terrestrial habitat with potential to support great crested newts. This will result in the permanent loss of breeding habitat for great crested newts and other amphibians, and the permanent loss of some areas of optimal and sub-optimal terrestrial habitat. The proposed development may also result in direct harm and disturbance to any great crested newts and other amphibians that may be present at the time of the works.

The development of part of the site for housing will not result in the loss of any ponds; however if great crested newts are present within the two ponds to the north of the site, which are approximately 580 metres and 180 metres from the housing development, then the parkland could form part of the terrestrial habitat used by the great crested newts. The proposed housing development could therefore result in the loss of terrestrial habitat and direct harm and disturbance to any great crested newts that may be present at the time of the survey.

4.2.3.4 Badgers

Badgers are protected under the Badgers Act 1992. This makes it an offence to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it. A badger sett is defined in the legislation as "a structure or place, which displays signs indicating current use by a badger".

Two main badger setts are located to the east of the Lin Brook. No evidence of badger setts or other badger activity was recorded within the area of land to be developed for the National Football Centre or the area of land proposed for the housing development. It is likely however, that badgers will be moving across the site and during the construction phase of works there is

the risk that badgers could fall into open excavations. The proposed developments are considered unlikely to have a direct impact on badgers. The loss of some of the parkland and unimproved neutral grassland may reduce the availability of foraging habitat for badgers; however this is not considered to be significant given the availability of habitat both on site and in the wider area.

4.2.3.5 Reptiles

All British reptiles are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000). Grass snake *Natrix natrix*, slow worm *Anguis fragilis*, common lizard *Lacerta vivipara* and adder *Vipera berus* are protected against intentional killing or injury and against sale. In addition, all British reptiles are UK BAP Priority Species.

No reptile records relevant to the site have been identified through the data trawl and no reptiles were located during the survey work completed in 2008. The proposed developments are not considered likely to have an impact on reptiles.

4.2.4 Rare Habitats/Species

4.2.4.1 Brown hare

Brown hare is a UK BAP and Staffordshire BAP Priority Species of high conservation concern. Brown hare has been recorded on site associated with the grassland surrounding one of the pitches, on a pitch and within one of the woodland copses within the arable fields to the east of the site. The proposed developments are considered unlikely to result in a loss of optimal habitats that are used by brown hare, such as arable farmland. The proposed developments are considered unlikely to have a significant impact on the brown hare population.

4.2.4.2 Hedgehog

Hedgehog is a UK BAP Priority Species of high conservation concern. A single hedgehog was recorded in 2007. The proposed developments have the potential to result in the loss of some available foraging habitat and could result in harm to hedgehogs during the construction works, through for example hedgehogs falling into open excavations. The loss of the habitat is not considered not be significant given the amount of overall available habitat for hedgehogs.

4.2.4.3 Invertebrates

The habitats present on site such as the ponds, parkland/wood-pasture, ephemeral/short perennial vegetation and unimproved neutral grassland are considered likely to support a range of invertebrates, some of which may be of conservation significance, for example saproxylic beetles, which are often associated with veteran trees and dead wood habitats. A number of butterfly and dragonfly and damselfly species have been recorded on site. One of the butterfly species, recorded, small heath, is a UK BAP Priority Species of high conservation concern. This species is often associated with downland, heathland and coastal dunes, but also roadside verges, woodland rides and glades and parkland.

The development of the National Football Centre will result in the loss of ephemeral/short perennial vegetation, four ponds and some unimproved neutral grassland. This will result in the loss of habitat for invertebrates and may result in a negative impact on species of particular conservation interest/rarity.

The housing development will result in the loss of improved pasture and five trees. This may result in the loss of habitat for invertebrates and may result in a negative impact on species of particular conservation interest/rarity.

Without further survey work it is not possible to provide a more detailed impact assessment of the likely impacts the development will have on invertebrates.

5 Recommendations

5.1.1 Habitats

National Football Centre
No further survey work is recommended. It is recommended that the loss of the unimproved neutral grassland, ponds and ephemeral/short perennial vegetation is compensated for through the appropriate management of existing unimproved neutral grassland to enhance its conservation interest, and through the creation of new ponds and translocation of aquatic vegetation and the re-creation and/or translocation of ephemeral/short perennial vegetation to the south of the site close to the irrigation building.

Housing development
No further survey work is recommended. It is recommended that the loss of this area of wood pasture/parkland is compensated for through the appropriate management of the remaining wood-pasture and parkland and through consideration of the creation of new areas of wood-pasture and parkland.

5.1.2 Protected Species

5.1.2.1 Bats

If any trees have to have works carried out to them, then it will be necessary to carry out further bat survey work, to try to determine the presence or absence of bat roosts, prior to these works. This survey work may involve dawn re-entry and tree climbing survey work. If bat roosts are identified then it will be necessary to obtain a European Protected Species Licence from Natural England to derogate from the legal protection afforded to bats.

It is recommended that the site is enhanced for bats through the provision of bat boxes within some of the areas of woodland and wood pasture/parkland. The Well House and Ice House could be enhanced and made more suitable for roosting and hibernating bats respectively. In addition, new bat roosting opportunities could be incorporated into the new houses and buildings associated with the National Football Centre.

Feeding and foraging habitat for bats could be enhanced through the creation of new areas of wood-pasture/parkland, the creation of new permanent ponds and scrub planting.

5.1.2.2 Birds

It is recommended that any vegetation clearance (including scrub, grassland and trees) is carried out, outside the bird nesting season to avoid an impact on active bird nests. If this is not possible then, the area of vegetation to be cleared would need to be surveyed by a suitably qualified ecologist to ensure that no active bird nests were present. If any active nests were identified then works would need to be delayed until the birds had fledged.

Little ringed plover has been recorded nesting on site and it is recommended that works avoid the breeding season to avoid damage and disturbance to the nest. Where this is not possible then it will be necessary to try to deter the birds from nesting at the start of the season, whilst taking into account the presence of other protected species (for example great crested newt).

It is recommended that replacement suitable nest sites for little ringed plover are provided on site. This could involve the creation of a brown roof on one of the buildings or the removal of an area of grassland to the west of the irrigation building to provide suitable alternative habitat.

In addition, it is recommended that the site is enhanced for nesting birds through the provision of bird nesting boxes within the areas of retained wood pasture/parkland and woodland, and the retention of all areas of dense scrub along the Lin Brook and Upper and Lower Ponds.

5.1.2.3 Great crested newts

National Football Centre

To derogate from the legal protection afforded to great crested newts, it will be necessary to secure a Natural England EPS Licence prior to the start of any works on site that may have an impact on great crested newts. A Natural England Licence Application is being submitted during winter 2008, and a mitigation strategy has been developed that will involve the creation of new ponds and associated terrestrial habitat to the east of the Lin Brook. As part of the mitigation strategy it is proposed that the ponds will be surveyed for great crested newts at the same time as the translocation in spring 2009.

Housing development

Prior to commencement of the housing development it will be necessary to carry out great crested newt surveys of the two ponds to the north of the site, one of which is off-site. Guidance from Natural England states that to determine presence/absence four surveys should be undertaken using a minimum of three survey methodologies between mid-March and mid-June, with at least two of these surveys being between mid-April and mid-May. To determine population size, six surveys are required within the same time scales, with three surveys between mid-April and mid-May.

5.1.2.4 Badgers

No further survey work is recommended. It is recommended that during the construction phase of both the National Football Centre and housing development any open excavations are either closed overnight or a ramp is placed within the holes to ensure that any animals that accidentally become trapped, can escape.

5.1.3 Rare Habitats/Species

5.1.3.1 Brown hare

No further survey work is recommended.

5.1.3.2 Hedgehog

It is recommended that during the construction phase of both the National Football Centre and housing development any open excavations are either closed overnight or a ramp is placed within the holes to ensure that any animals that accidentally become trapped can escape.

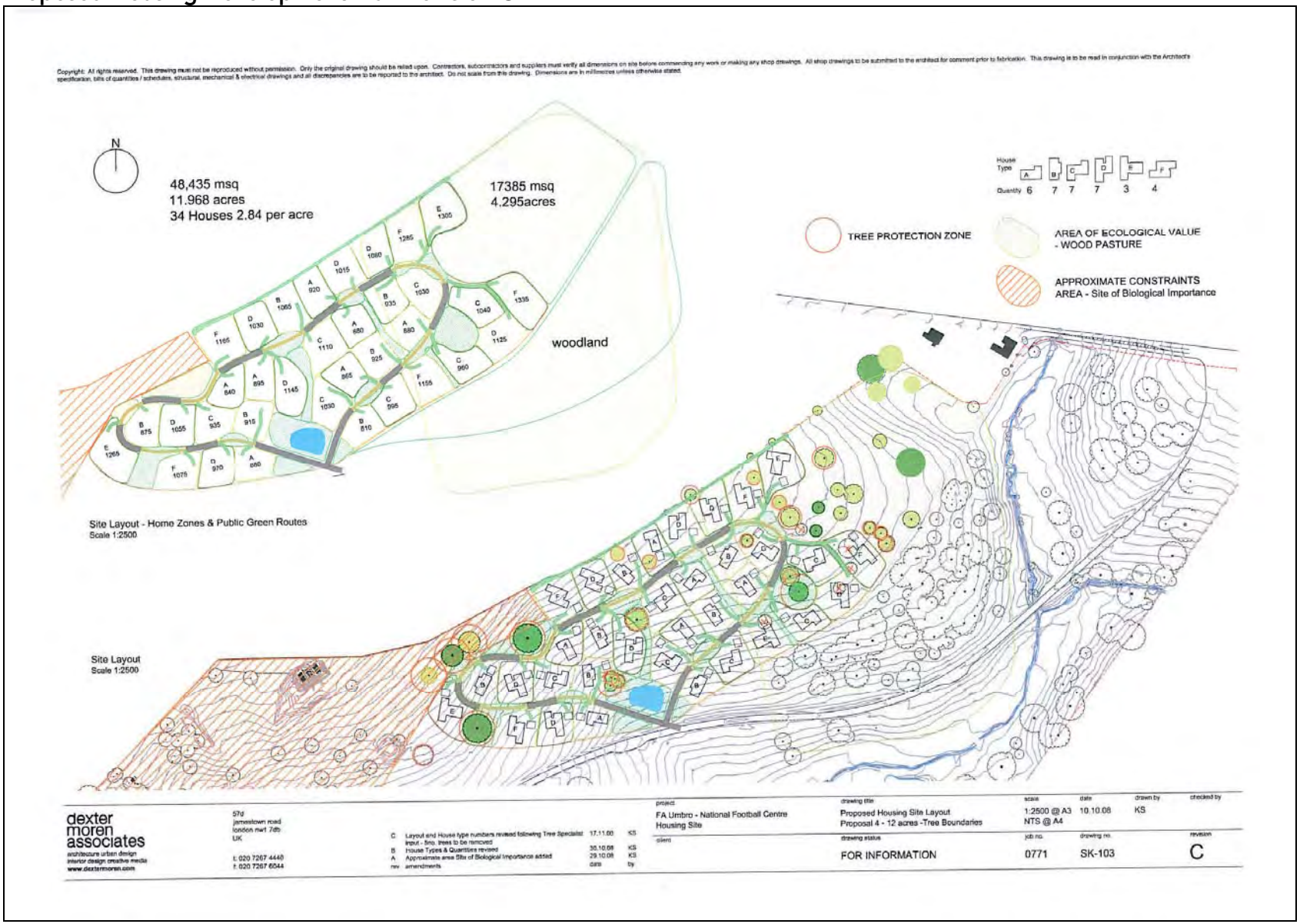
5.1.3.3 Invertebrates

Further survey work to more fully determine the invertebrates that are present within the wood-pasture/parkland, area of ephemeral/short perennial vegetation and ponds is recommended. This will allow for a detailed impact assessment to be completed.

The creation of new ponds and translocation of aquatic vegetation is considered likely to provide replacement habitat for freshwater invertebrates.

6 Appendix 1: Development proposal plans

Proposed Housing Development Plan Revision C



Overall National Football Centre Development Plan

7 Appendix 2 Data trawl results

Staffordshire Ecological Record
Email: info@staffs-ecology.org.uk
Website: www.staffs-ecology.org.uk
Please reply to:

Andy Leak
Principal Environmental Information Officer,
(On behalf of SER),
Riverway,
STAFFORD,
ST16 3TJ

Tel: 01785 277257
Fax: 01785 211279
andy.leak@staffordshire.gov.uk.

03 September 2008

SER Reference: EC6020/ES/AL
Your Reference: 3776 (Purchase Order B0357)

Dear Ms Stiles,

Sites and Species Biological Records 3Km SK165, 235, Byrkeley for BSG

Thank you for your recent request for biological records 3Km of SK165, 235, dated 2 September/2008.

Your search area intersects with Braken Hurst SSSI and I have records for the following non-statutorily protected (Local) sites:

Sites of Biological Importance (SBIs) 3Km of SK165, 235, Byrkeley for BSG

SITEID	SITENAME
12/32/89	Beck's Bank
12/33/67	Poole's Coppice
12/33/92	Primrose Bank (road verges)
12/43/25	Jackson's Bank and Brakenhurst Wood
12/50/48	Whitehead (junction near)
12/51/43	Thatchmoor Marsh
*12/51/57	Yoxall Park and Brankley Covert
12/62/44	Lin Brook
12/63/56	Byrkley Park
12/75/24	Hanbury Park

* Please note in the accompanying citations to description for subsite 1 of 12/51/57 is for a site which Staffordshire Wildlife Trust manages as a nature reserve.

Biodiversity Alert Sites (BAS) 3Km SK165, 235, Byrkeley for BSG

SITEID	SITE NAME
12/33/63	Hoar Cross
12/44/27	B5017
12/44/94	A515
12/50/76	White Wood
12/51/63	Brankley Covert (west of)
12/52/43	Yoxall Lodge
12/60/88	Sherholt Lodge
12/64/08	Kings Standing Pools
12/65/18	Pipey Lane
12/74/92	Rangemore Hill Road
12/85/15	Needwood House

In addition I have records for the following BAP, Section 74 and Protected Species. These data comprise three lists. The protected species list comprises all local records for all European protected species (EPS) (These are shown on the accompanying plan as a red triangle upon which is superimposed a white character denoting the species or species group. The "other protected species" list includes all protected species except EPS or those species which are protected from sale only. The BAP & Section 74 list comprises all local records for BAP species recorded on the UK BAP list 1, in Section 74 Countryside and Rights of Way Act (2000)(When a replacement list has been published under Section 41 of the NERC Act 2006, this will be used) and Staffordshire BAP. It is important to realise that there is significant duplication in these lists as several species are both protected and subject to BAP targets. For the purposes of mapping the protected species have been placed above BAP species and so red symbols may obscure green ones below.

Please note that we now include on our location plans, indicative locations for BAP habitats; these are all derived from data sets compiled by Natural England and has not been obtained by primary survey conducted on behalf of SER and so SER cannot guarantee its accuracy.

The following records comprise a comprehensive list of all reports received by SER, but they are not to be seen as being a comprehensive statement of the total presence or absence of a protected or biodiversity target species. In particular, Great Crested Newts(GCN) are both widespread and relatively common in Staffordshire and so any cluster of ponds or pools should be viewed as having breeding potential. This is especially true at the edges of your search area, where an aggregation of potential breeding habitat may be only a short distance from records which your search missed. SER recommends, therefore, that you scrutinise ponds or pools at the edge of your search area very carefully for GCN potential.

EPS 3Km SK165, 235 Byrkeley for BSG

COMMON NAME	Status at Site	GRID REF	DATE
45kHz Pipistrelle	1 Adult In Flight	SK171208	20 May 2006
45kHz Pipistrelle	1 Adult In Flight	SK179243	20 May 2006
45kHz Pipistrelle	1 Adult In Flight	SK189239	20 May 2006
45kHz Pipistrelle	Adult Feeding	SK158215	20 May 2006
45kHz Pipistrelle	Adult Feeding	SK163217	20 May 2006
a bat	possible roost Present	SK143240	17 JUN 1999
a bat	present occasional	SK155217	21 JUL 1999
a bat	1 in flight	SK1423	12 SEP 1990
a bat	roosting	SK1722	06 JUL 1981
a bat species	possible roost Present	SK143240	17 JUN 1999
a bat species	present occasional	SK155217	21 JUL 1999
a bat species	1 in flight	SK1423	12 SEP 1990
a bat species	roosting	SK1722	06 JUL 1981
Great Crested Newt	present occasional	SK155217	21 JUL 1999
Noctule	1 Adult	SK1522	05 Jun 2006
Pipistrelle	1 adult	SK164221	22 SEP 1989
Pipistrelle	1 juvenile, dying/moribund	SK182230	17 JUL 1991
Pipistrelle	1 Adult In Flight	SK171208	20 May 2006
Pipistrelle	1 Adult In Flight	SK179243	20 May 2006
Pipistrelle	1 Adult In Flight	SK189239	20 May 2006
Pipistrelle	Adult Feeding	SK158215	20 May 2006
Pipistrelle	Adult Feeding	SK163217	20 May 2006
Pipistrelle species	Adult Roost	SK14102395	2002

EPS 3Km SK165, 235 Byrkeley for BSG

COMMON NAME	Status at Site	GRID REF	DATE
Pipistrelle species	Adult Roost	SK14102395	2003
Pipistrelle species	17 Adult Roost	SK14102395	16 Jun 2000
Pipistrelle species	34 Adult Roost	SK14102395	08 Jun 2000
Pipistrelle species	Adult Roost	SK14102395	2004
Soprano Pipistrelle	Adult Feeding	SK162215	20 May 2006
Soprano Pipistrelle	Adult Feeding	SK159216	20 May 2006

UK Protected, non-EPS 3Km SK165, 235, Byrkeley for BSG

COMMON NAME	Status at Site	GRID REF	DATE
Badger	1 Adult	SK154212	10 Aug 2001
Badger		SK1822	1965 - 1966
Badger	1 Dead	SK1624	25 May 2004
Badger	1 Adult	SK1522	05 Jun 2006
Barn Owl	1 in flight	SK149245	06 MAY 2002
Barn Owl	1 in flight	SK149255	10 APR 2007
Barn Owl	probable breeding	SK1423	1998 - 2001
Barn Owl	1	SK1524	12 Nov 2006
Barn Owl	2	SK1623	2006
Barn Owl	2	SK1623	Apr 2005
Barn Owl	2	SK1623	Mar 2005
Barn Owl	1	SK1522	2005
Brambling	1	SK1623	23 Nov 2006
Brambling	2	SK1623	24 Feb 2006
Brambling	15	SK1623	27 Oct 2005
Brambling	1	SK1623	22 Oct 2005
Brambling	5	SK1624	24 Nov 2006
Crossbill	7 adults	SK145228	04 FEB 2000
Crossbill	3	SK1822	19 Mar 2003
Fieldfare	12 presents	SK1523	05 DEC 2002
Fieldfare	3 presents	SK1523	18 OCT 2003
Fieldfare	8 presents	SK1523	31 DEC 2003
Fieldfare	150	SK1423	13 Mar 2005
Fieldfare	300	SK1523	17 Nov 2007
Fieldfare	400	SK1623	16 Jan 2006
Fieldfare	280	SK1624	21 Feb 2005
Fieldfare	Adult	SK1621	01 Mar 2007
Golden Plover	450	SK1824	22 Nov 2006
Golden Plover	100	SK1524	25 Mar 2007
Golden Plover	100	SK1623	24 Jan 2006
Golden Plover	403	SK1624	24 Mar 2006
Golden Plover	190	SK1624	06 Oct 2006
Golden Plover	190	SK1624	02 Jan 2006
Golden Plover	320	SK1624	14 Nov 2006
Golden Plover	550	SK1624	Apr 2005
Golden Plover	1	SK1624	May 2005
Golden Plover	1	SK1624	Jul 2005
Golden Plover	1	SK1624	Aug 2005
Golden Plover	80	SK1624	Oct 2005
Golden Plover	125	SK1624	Dec 2005
Golden Plover	900	SK1624	Mar 2005
Golden Plover	450	SK1624	Feb 2005
Golden Plover	1	SK1624	Jan 2005
Golden Plover	250	SK1624	Nov 2005
Goshawk	1 in flight, male, calling/vocalising, probable breeding	SK1424	03 APR 2002
Goshawk	1	SK1725	02 Mar 2005
Grass Snake	adult	SK1524	1959
Grass Snake		SK1524	1960

UK Protected, non-EPS 3Km SK165, 235, Byrkeley for BSG

COMMON NAME	Status at Site	GRID REF	DATE
Hobby	1	SK1825	26 Aug 2005
Hobby	1	SK1824	08 May 2005
Hobby	2	SK1623	02 May 2005
Hobby	2	SK1623	03 May 2006
Hobby	1	SK1624	08 Aug 2006
Hobby	1	SK1624	31 Jul 2005
Kingfisher	5 Breeding (confirmed)	SK1423	Jun 2006
Kingfisher	1	SK1623	2006
Lapland Bunting	3	SK1824	19 Oct 1986
Lesser White-fronted Goose	1	SK1623	09 Oct 2005
Lesser White-fronted Goose	1	SK1623	14 Oct 2005
Little Ringed Plover	1	SK1623	12 Aug 2006
Little Ringed Plover	6 Breeding (confirmed)	SK1623	Jun 2006
Little Ringed Plover	1	SK1623	28 Mar 2006
Little Ringed Plover	1	SK1623	16 Aug 2005
Little Ringed Plover	2	SK1623	03 Aug 2005
Little Ringed Plover	3 Breeding (probable)	SK1623	Jul 2005
Little Ringed Plover	2 Breeding (confirmed)	SK1623	02 May 2005
Little Ringed Plover	3	SK1623	Jun 2005
Little Ringed Plover	1	SK1623	15 Apr 2005
Mediterranean Gull	1	SK1624	22 Jun 2006
Merlin	2 Breeding (possible)	SK1423	May 2005
Merlin	1	SK1623	16 Aug 2005
Merlin	1	SK1623	14 Mar 2005
Merlin	1	SK1824	08 Aug 2005
Merlin	1	SK1624	16 Nov 2006
Merlin	1	SK1624	08 Nov 2006
Merlin	1	SK1624	23 Sep 2006
Merlin	1	SK1423	09 Aug 2005
Nightjar	1	SK1623	23 Sep 1998
Peregrine	1	SK1824	14 Apr 2000
Peregrine	1	SK1623	19 Oct 2005
Peregrine	1	SK1623	07 Feb 2006
Peregrine	1	SK1623	07 Nov 2000
Pine Marten	1 Adult	SK144241	08 Aug 2006
Red Kite	1	SK1824	15 Nov 2000
Red Kite	1	SK1825	15 Mar 2005
Red Kite	1	SK1524	25 Mar 2006
Red Kite	1	SK1624	31 Oct 2000
Redwing	6 presents	SK1523	05 DEC 2002
Redwing	4 presents	SK1523	25 OCT 2003
Redwing	4 presents	SK1523	31 DEC 2003
Redwing	100	SK1423	13 Mar 2005
Redwing	75	SK1523	17 Nov 2007
Redwing	350	SK1623	16 Jan 2006
Redwing	3	SK1623	10 Oct 2005
Redwing	175	SK1623	22 Oct 2005
Redwing	250	SK1623	24 Oct 2005
Redwing	80	SK1623	25 Oct 2005
Redwing	150	SK1623	28 Oct 2005
Roller	1	SK1623	1856
Slow-worm		SK1524	1960
Snow Bunting	1	SK1824	19 Oct 1986
Viviparous Lizard		SK1524	- 1960

Section 74, BAP1 & SBAP Species 3Km SK165, 235, Byrkeley for BSG

COMMON NAME	Status at Site	GRID REF	DATE
45kHz Pipistrelle	1 Adult In Flight	SK171208	20 May 2006
45kHz Pipistrelle	1 Adult In Flight	SK179243	20 May 2006
45kHz Pipistrelle	1 Adult In Flight	SK189239	20 May 2006
45kHz Pipistrelle	Adult Feeding	SK158215	20 May 2006
45kHz Pipistrelle	Adult Feeding	SK163217	20 May 2006
4-spotted Digger Wasp	1 female	SK161215	06 JUL 2000
4-spotted Digger Wasp	female several	SK161215	01 AUG 2000
4-spotted Digger Wasp	adult several	SK161215	12 AUG 2000
4-spotted Digger Wasp	adult	SK161215	11 JUL 2000
4-spotted Digger Wasp	adult	SK161215	22 AUG 2000
Andrena chrysosceles	adult	SK161215	16 JUN 2000
Andrena clarkella	adult	SK161215	21 APR 2000
Andrena clarkella		SK160212	01 MAY 1997
Andrena fucata	adult	SK161215	10 MAY 2000
Andrena fucata	adult	SK161215	31 MAY 2000
Andrena nigroaenea	adult	SK161215	05 MAY 2000
Andrena nigroaenea	adult	SK161215	31 MAY 2000
Andrena nigroaenea	adult	SK161215	30 MAY 2000
Andrena nigroaenea	adult	SK160212	26 APR 1998
Andrena nigroaenea		SK160212	01 MAY 1997
Andrena pubescens	adult	SK161215	21 APR 2000
Andrena pubescens	adult	SK161215	15 MAY 2000
Andrena saundersella	adult	SK161215	10 JUN 2000
Andrena scotica	adult	SK161215	15 MAY 2000
Andrena scotica	adult	SK161215	31 MAY 2000
Andrena subopaca	adult	SK161215	31 MAY 2000
Andrena wilkella		SK160212	01 MAY 1997
Anoplius nigerrimus	1 female	SK161215	19 JUL 2000
Anoplius nigerrimus		SK1621	28 AUG 2002
Arachnospila spissa	1 male	SK161215	15 JUN 2000
Barn Owl	1 in flight	SK149245	06 MAY 2002
Barn Owl	1 in flight	SK149255	10 APR 2007
Barn Owl	probable breeding	SK1423	1998 - 2001
Barn Owl	1	SK1524	12 Nov 2006
Barn Owl	2	SK1623	2006
Barn Owl	2	SK1623	Apr 2005
Barn Owl	2	SK1623	Mar 2005
Barn Owl	1	SK1522	2005
Black Poplar		SK190240	28 APR 2001
Blood-vein		SK162215	1997
Blood-vein		SK162215	1981
Brown Hare	1 adult	SK161215	19 JUL 2000
Brown Hare	present frequent	SK155217	21 JUL 1999
Brown Hare	present occasional	SK182235	31 AUG 1999
Brown Hare		SK164219	05 AUG 1998
Brown Hare	present	SK154213	03 SEP 1996
Brown Hare	3 adults	SK163213	20 JAN 2007

Section 74, BAP1 & SBAP Species 3Km SK165, 235, Byrkeley for BSG

COMMON NAME	Status at Site	GRID REF	DATE
Brown Hare	1 adult	SK1423	24 APR 1999
Brown Hare	1 present	SK1623	05 DEC 2002
Brown Hare	2 runnings	SK1521	10 SEP 2002
Brown Hare	1 present	SK1423	13 JUN 2003
Brown Hare	1 present	SK1423	13 JUN 2003
Bullfinch		SK165213	20 JAN 2007
Bullfinch	1 male, 1 female, feeding	SK1423	29 JAN 2002
Bullfinch	6	SK1523	17 Nov 2007
Bullfinch	1	SK1623	25 Jan 2006
Bullfinch	3	SK1623	08 Mar 2005
Bullfinch	4	SK1623	27 Oct 2005
Bullfinch	2 Breeding (confirmed)	SK1623	08 Aug 2005
Bullfinch	3	SK1623	08 Mar 2005
Bullfinch	Adult	SK1621	02 May 2007
Chrysis ignita	adult	SK161215	16 JUN 2000
Chrysis ignita	female	SK153217	25 MAY 2004
Chrysis ignita		SK1621	28 AUG 2002
Club Horned Wood Borer Wasp	1 adult	SK161215	27 JUN 2000
Club Horned Wood Borer Wasp	2 females	SK161215	19 JUL 2000
Club Horned Wood Borer Wasp	adult	SK161215	11 JUL 2000
Club Horned Wood Borer Wasp	female	SK153217	25 MAY 2004
Club Horned Wood Borer Wasp		SK1621	28 AUG 2002
Common Cuckoo	1	SK1623	05 Jun 2005
Common Cuckoo	1	SK1624	10 Jun 2005
Common Cuckoo	12	SK1624	Jun 2006
Common Starling	1400	SK1623	16 Jan 2006
Common Toad	proved breeding	SK152227	20 APR 1983
Common Toad		SK181222	27 JUL 1999
Common Yellow Face Bee	1 adult	SK161215	12 AUG 2000
Corn Bunting	1	SK1624	03 May 2006
Crossocerus annulipes	1 female	SK161215	27 JUN 2000
Crossocerus annulipes	1 female	SK161215	19 JUL 2000
Crossocerus cetratus	1 adult	SK161215	30 MAY 2000
Crossocerus cetratus	1 adult	SK161215	10 JUN 2000
Crossocerus cetratus	1 female	SK161215	27 JUN 2000
Crossocerus cetratus	1 male	SK161215	01 AUG 2000
Crossocerus cetratus	adult	SK161215	16 JUN 2000
Crossocerus cetratus	adult	SK161215	22 AUG 2000
Crossocerus megacephalus	1 adult	SK161215	10 JUN 2000
Crossocerus megacephalus	1 female	SK161215	15 JUN 2000
Crossocerus megacephalus	adult	SK161215	16 JUN 2000
Crossocerus	adult	SK161215	11 JUL 2000

Section 74, BAP1 & SBAP Species 3Km SK165, 235, Byrkeley for BSG

COMMON NAME	Status at Site	GRID REF	DATE
megacephalus Crossocerus	adult	SK161215	22 AUG 2000
megacephalus Crossocerus	female	SK153217	25 MAY 2004
megacephalus Crossocerus		SK1621	28 AUG 2002
megacephalus Crossocerus ovalis	1 female	SK161215	19 JUN 2000
Crossocerus podagricus	1 female	SK161215	27 JUN 2000
Crossocerus podagricus	1 male	SK161215	12 AUG 2000
Crossocerus podagricus		SK1621	28 AUG 2002
Crossocerus pusillus	1 female	SK161215	06 JUL 2000
Crossocerus pusillus	adult	SK161215	22 AUG 2000
Crossocerus pusillus		SK160212	01 MAY 1997
Curlew	2 Breeding (probable)	SK1623	Jun 2006
Dipogon subintermedius	1 female	SK161215	15 JUN 2000
Dipogon subintermedius	1 male	SK161215	15 JUN 2000
Dipogon subintermedius	1 adult	SK161215	27 JUN 2000
Dipogon subintermedius	adult	SK161215	11 JUL 2000
Dipogon subintermedius	adult	SK161215	22 AUG 2000
Dipogon subintermedius	female	SK153217	25 MAY 2004
Dunnock	3 presents	SK1523	05 DEC 2002
Dunnock	1 present	SK1523	11 OCT 2003
Dunnock	1 present	SK1523	25 OCT 2003
Early Mining Bee	1 adult	SK161215	13 MAY 2000
Early Mining Bee	adult	SK161215	21 APR 2000
Early Mining Bee	adult	SK161215	28 APR 2000
Early Mining Bee	adult	SK161215	05 MAY 2000
Early Mining Bee	adult	SK161215	15 MAY 2000
Early Mining Bee	adult	SK160212	26 APR 1998
Ectemnius cephalotes	1 female	SK161215	01 AUG 2000
European White-fronted Goose	1	SK1623	14 Oct 2005
Fabricius' Nomad Bee	adult	SK161215	05 MAY 2000
Fabricius' Nomad Bee	adult	SK161215	10 MAY 2000
Golden-rod Nomad Bee		SK160212	01 MAY 1997
Gooden's Nomad Bee	adult	SK161215	28 APR 2000
Gooden's Nomad Bee	adult	SK161215	15 MAY 2000
Gooden's Nomad Bee	adult	SK161215	31 MAY 2000
Grass Snake	adult	SK1524	1959

Section 74, BAP1 & SBAP Species 3Km SK165, 235, Byrkeley for BSG

COMMON NAME	Status at Site	GRID REF	DATE
Grass Snake		SK1524	1960
Grasshopper Warbler	1	SK1623	16 May 2006
Great Crested Newt	present occasional	SK155217	21 JUL 1999
Grey Dagger	adult	SK1621	JUL-AUG 1997
Grey Mining Bee	1 female	SK161215	19 JUN 2000
Grey Mining Bee	adult	SK161215	15 MAY 2000
Grey Mining Bee	adult	SK160212	26 APR 1998
Grey Mining Bee		SK160212	01 MAY 1997
Grey Mining Bee	adult abundant	SK1621	25 APR 2004
Grey Partridge	1	SK1623	26 Jan 2005
Gwynne's Mining Bee		SK160212	01 MAY 1997
Halictus rubicundus		SK160212	01 MAY 1997
Halictus tumulorum	adult	SK161215	15 MAY 2000
Halictus tumulorum		SK160212	01 MAY 1997
Hawfinch	1	SK1522	28 Mar 1982
Hedgehog		SK1822	1965 - 1966
Herring Gull	4	SK1624	18 Sep 2006
Horned Black Wasp	1 adult	SK161215	01 AUG 2000
Horned Black Wasp	adult	SK161215	22 AUG 2000
Horned Black Wasp		SK1621	28 AUG 2002
House Sparrow	3 presents	SK1523	11 OCT 2003
Knot Grass	present locally frequent	SK149244	27 AUG 2004
Knot Grass	present locally frequent	SK149247	03 SEP 2004
Lapwing	1 probable breeding, in flight	SK150243	01 JUL 2000
Lapwing	50 in flights	SK177245	15 SEP 2002
Lapwing	40 in flights	SK176246	27 FEB 2006
Lapwing	6 in flights	SK170209	27 FEB 2006
Lapwing	present several	SK1623	08 MAR 2000
Lapwing	4 adults	SK1423	06 MAR 2003
Lapwing	1 in flight	SK1625	02 APR 2003
Lapwing	3 presents	SK1523	31 DEC 2003
Lapwing	4 Breeding (confirmed)	SK1824	2003
Lapwing	375	SK1825	16 Sep 2006
Lapwing	4 Breeding (confirmed)	SK1824	10 May 2005
Lapwing	4 Adult Breeding (possible)	SK1621	02 May 2007
Lapwing	300	SK1624	Oct 2006
Lapwing	300	SK1624	Sep 2006
Lapwing	200	SK1624	Mar 2005
Lapwing	110	SK1624	Oct 2005
Lapwing	1	SK1624	Sep 2005
Lapwing	240	SK1624	Aug 2005
Lapwing	210	SK1624	Jul 2005
Lapwing	14	SK1624	Jun 2005
Lapwing	635	SK1624	Jan 2005
Lapwing	10	SK1624	Apr 2005
Lapwing	375	SK1624	Feb 2005
Lapwing	100	SK1624	Nov 2005
Lapwing	13	SK1624	May 2005
Lapwing	13 Breeding (confirmed)	SK1624	May 2005
Lapwing	14 Breeding (confirmed)	SK1624	Aug 2005
Lapwing	28 Breeding (probable)	SK1624	Apr 2006
Lapwing	Adult	SK1621	01 Mar 2007
Lapwing	Adult	SK1621	01 Mar 2007
Lapwing	2	SK1625	26 Feb 2005
Large Garden		SK161215	01 MAY 1997

Section 74, BAP1 & SBAP Species 3Km SK165, 235, Byrkeley for BSG

COMMON NAME	Status at Site	GRID REF	DATE
Bumble Bee			
Large Garden Bumblebee		SK161215	01 MAY 1997
Large Spurred Digger Wasp	1 adult	SK161215	15 MAY 2000
Lasioglossum albipes	adult	SK161215	16 JUN 2000
Lasioglossum albipes	adult	SK161215	22 AUG 2000
Lasioglossum albipes	adult	SK161215	12 AUG 2000
Lesser Redpoll	8	SK1825	11 Feb 2005
Lesser Redpoll	65	SK1623	01 Nov 2005
Lesser Redpoll	120	SK1623	19 Nov 2005
Lesser Redpoll	175	SK1623	04 Jan 2006
Lesser Redpoll	200	SK1623	11 Jan 2006
Lesser Redpoll	200	SK1623	25 Feb 2006
Lesser Redpoll	7	SK1624	22 Oct 2005
Lesser Spotted Woodpecker	2 Breeding (possible)	SK1521	12 Jun 2005
Lesser Spotted Woodpecker	1 Breeding (possible)	SK1825	29 Mar 2005
Lesser Spotted Woodpecker		SK1623	2006
Lesser Spotted Woodpecker	2	SK1623	09 May 2005
Lesser Spotted Woodpecker	1	SK1623	06 Apr 2005
Lesser Spotted Woodpecker	1	SK1623	08 Mar 2005
Lesser Spotted Woodpecker	1	SK1623	23 Jul 2005
Lesser Spotted Woodpecker	1	SK1623	16 Oct 2005
Lesser Spotted Woodpecker	1	SK1623	23 Aug 2006
Lesser Spotted Woodpecker	1	SK1623	21 Aug 2006
Lesser Spotted Woodpecker	1	SK1623	12 Jan 2006
Lesser Spotted Woodpecker	1	SK1623	02 Jan 2006
Linnet	5 Breeding (confirmed)	SK1623	22 Jul 2005
Linnet	1 Adult	SK1621	02 May 2007
Linnet	375	SK1624	09 Sep 2006
Linnet	30	SK1624	31 Jul 2005
Linnet	20	SK1624	16 Feb 2005
Linnet	85	SK1624	15 Apr 2005
Linnet	80	SK1624	04 Aug 2005
Linnet	60	SK1624	22 Oct 2005
Linnet	120	SK1624	14 Mar 2005
Marsh Tit	1 present	SK1423	25 DEC 2002
Marsh Tit	2	SK1423	09 Mar 2005
Marsh Tit	4 Breeding (confirmed)	SK1825	Jul 2005
Marsh Tit	2	SK1623	19 Oct 2005
Marsh Tit	1	SK1623	16 Aug 2005
Marsh Tit	2	SK1623	2006
Marsham's Nomad Bee	1 adult	SK161215	15 JUN 2000

Section 74, BAP1 & SBAP Species 3Km SK165, 235, Byrkeley for BSG

COMMON NAME	Status at Site	GRID REF	DATE
Marsham's Nomad Bee	adult	SK161215	10 MAY 2000
Mottled Rustic		SK162215	1997
Mottled Rustic		SK162215	1981
Mottled Rustic	adult	SK1621	JUL-AUG 1997
Mournful Wasp	1 female	SK161215	15 JUN 2000
Mournful Wasp	adult several	SK161215	12 AUG 2000
Mournful Wasp	female	SK153217	25 MAY 2004
Nightjar	1	SK1623	23 Sep 1998
Noctule	1 Adult	SK1522	05 Jun 2006
Nomada flava	adult	SK161215	28 APR 2000
Nomada flava	adult	SK161215	10 MAY 2000
Nomada flava	adult	SK161215	15 MAY 2000
Nomada flava	adult	SK161215	13 MAY 2000
Nomada flavoguttata	1 adult	SK161215	15 MAY 2000
Nomada flavoguttata	adult	SK161215	15 MAY 2000
Nomada flavoguttata	adult	SK161215	31 MAY 2000
Nomada flavoguttata		SK160212	01 MAY 1997
Nomada lathburiana	adult	SK161215	05 MAY 2000
Nomada lathburiana	adult	SK161215	15 MAY 2000
Nomada lathburiana	adult	SK161215	25 MAY 2000
Nomada leucophthalma	adult	SK161215	05 MAY 2000
Nomada panzeri	adult	SK161215	05 MAY 2000
Nomada panzeri	adult	SK161215	15 MAY 2000
Nomada panzeri	adult	SK161215	16 JUN 2000
Oak Hook-tip		SK162215	1997
Oak Hook-tip		SK162215	1981
Oak Hook-tip	adult	SK1621	JUL-AUG 1997
Omalus puncticollis	1 adult	SK161215	19 JUL 2000
Osmia leaiana	1 male	SK161215	10 JUN 2000
Osmia leaiana	1 female	SK161215	06 JUL 2000
Pale Footed Black Wasp	2 females	SK161215	19 JUL 2000
Pale Footed Black Wasp	adult	SK161215	11 JUL 2000
Patchwork Leaf-cutter Bee	1 male	SK161215	19 JUN 2000
Pine Marten	1 Adult	SK144241	08 Aug 2006
Pipistrelle	1 adult	SK164221	22 SEP 1989
Pipistrelle	1 juvenile, dying/moribund	SK182230	17 JUL 1991
Pipistrelle	1 Adult In Flight	SK171208	20 May 2006
Pipistrelle	1 Adult In Flight	SK179243	20 May 2006
Pipistrelle	1 Adult In Flight	SK189239	20 May 2006
Pipistrelle	Adult Feeding	SK158215	20 May 2006
Pipistrelle	Adult Feeding	SK163217	20 May 2006
Priocnemis exaltata	1 male	SK161215	19 JUL 2000
Priocnemis schioedtei	1 male	SK161215	06 JUL 2000
Priocnemis schioedtei	1 female	SK161215	06 JUL 2000
Priocnemis	1 male, 1 female	SK161215	01 AUG 2000

Section 74, BAP1 & SBAP Species 3Km SK165, 235, Byrkeley for BSG

COMMON NAME	Status at Site	GRID REF	DATE
schioedtei			
Priocnemis schioedtei	1 male	SK161215	12 AUG 2000
Priocnemis schioedtei	1 female	SK161215	12 AUG 2000
Priocnemis schioedtei	adult	SK161215	11 JUL 2000
Priocnemis schioedtei	adult	SK161215	22 AUG 2000
Priocnemis susterai	adult	SK161215	05 MAY 2000
Psen dahlbomi	1 adult	SK161215	19 JUN 2000
Psen dahlbomi	adult	SK161215	11 JUL 2000
Red Mason Bee	adult	SK161215	31 MAY 2000
Red-horned Nomad Bee	adult	SK161215	05 MAY 2000
Red-horned Nomad Bee	adult	SK161215	13 MAY 2000
Red-horned Nomad Bee	adult	SK160212	26 APR 1998
Red-horned Nomad Bee		SK160212	01 MAY 1997
Reed Bunting	1 present	SK1523	11 OCT 2003
Reed Bunting	5	SK1623	19 Nov 2005
Reed Bunting	3	SK1623	22 Oct 2005
Reed Bunting	2	SK1623	2006
Reed Bunting	4 Breeding (confirmed)	SK1624	May 2005
Rhopalum clavipes	1 female	SK161215	06 JUL 2000
September Thorn		SK162215	1981
Shaded Broad-bar		SK162215	1997
Shaded Broad-bar		SK162215	1981
Shaded Broad-bar	adult	SK1621	JUL-AUG 1997
Shaggy Mining Bee		SK160212	01 MAY 1997
Shoulder-striped Wainscot		SK162215	1997
Shoulder-striped Wainscot		SK162215	1981
Shoulder-striped Wainscot	adult	SK1621	JUL-AUG 1997
Shuckard's Wasp	1 female	SK161215	12 AUG 2000
Shuckard's Wasp	1 adult	SK161215	12 AUG 2000
Skylark	1 male, singing/mating calls	SK165210	27 FEB 2006
Skylark	3 adults	SK164216	20 JAN 2007
Skylark	singing/mating calls	SK165211	20 JAN 2007
Skylark	1 present	SK1523	11 OCT 2003
Skylark	21 presents	SK1523	18 OCT 2003
Skylark	2 presents	SK1523	25 OCT 2003
Skylark	2	SK1623	21 Feb 2005
Skylark	2 Breeding (possible)	SK1623	Apr 2006
Skylark	Adult	SK1621	02 May 2007
Skylark	40	SK1624	22 Dec 2006
Skylark	32	SK1624	22 Oct 2006
Skylark	40	SK1624	25 Sep 2006
Skylark	40	SK1624	18 Feb 2006
Skylark	90	SK1624	21 Jan 2006
Skylark	7 Breeding (confirmed)	SK1624	May 2006
Skylark	12 Breeding (probable)	SK1624	Apr 2005
Skylark	25	SK1624	06 Jan 2005
Skylark	37	SK1624	21 Feb 2005

Section 74, BAP1 & SBAP Species 3Km SK165, 235, Byrkeley for BSG

COMMON NAME	Status at Site	GRID REF	DATE
Skylark	20 Breeding (probable)	SK1624	Mar 2005
Skylark	120	SK1624	18 Nov 2005
Skylark	60	SK1624	27 Dec 2005
Skylark	100	SK1624	16 Nov 2005
Skylark	55	SK1624	14 Oct 2005
Skylark	40	SK1624	09 Oct 2005
Sleepy Carpenter Bee	1 female	SK161215	19 JUN 2000
Sleepy Carpenter Bee	1 male	SK161215	30 MAY 2000
Sleepy Carpenter Bee	1 female	SK161215	01 AUG 2000
Sleepy Carpenter Bee	adult	SK161215	16 JUN 2000
Slow-worm		SK1524	1960
Snipe	20	SK1624	05 Mar 2006
Song Thrush	1 present	SK1424	03 APR 2002
Song Thrush	3	SK1623	20 Jan 2006
Song Thrush	7	SK1623	10 Oct 2005
Song Thrush	20	SK1623	24 Oct 2005
Song Thrush	7	SK1624	08 Oct 2005
Song Thrush	3	SK1624	2006
Soprano Pipistrelle	Adult Feeding	SK162215	20 May 2006
Soprano Pipistrelle	Adult Feeding	SK159216	20 May 2006
Sphecodes ephippius	adult	SK161215	22 AUG 2000
Sphecodes fasciatus	adult	SK161215	15 JUN 2000
Sphecodes puncticeps		SK160212	01 MAY 1997
Spotted Flycatcher	3	SK1825	29 Aug 2005
Spotted Flycatcher	1	SK1824	04 Jul 2005
Spotted Flycatcher	2	SK1623	21 Aug 2006
Spotted Flycatcher	5	SK1623	22 Aug 2005
Spotted Flycatcher	1	SK1623	27 Aug 2005
Spotted Flycatcher	4	SK1623	04 Sep 2005
Spotted Flycatcher	1	SK1623	21 Sep 2006
Spotted Flycatcher	2 Breeding (confirmed)	SK1624	Jul 2006
Spotted Flycatcher	3	SK1624	27 Aug 2005
Spotted Flycatcher	5	SK1624	12 Sep 2005
Stelis punctulatissima	1 male	SK161215	27 JUN 2000
Stigmus solskyi	1 adult	SK161215	01 AUG 2000
Tawny Mining Bee	adult	SK161215	21 APR 2000
Tawny Mining Bee	adult	SK160212	26 APR 1998
Tawny Mining Bee		SK160212	01 MAY 1997
Tree Pipit	1	SK1623	30 Aug 2005
Tree Pipit	1	SK1624	17 Sep 2006
Tree Sparrow	feeding large flock	SK151208	19 MAR 2001
Tree Sparrow	2	SK1623	2006
Tree Sparrow	95 Breeding (confirmed)	SK1624	21 Aug 2006
Trichrysis cyanea	1 adult	SK161215	19 JUN 2000
Trichrysis cyanea	adult	SK161215	11 JUL 2000
Twite	1	SK1824	30 Mar 1990
Twite	1	SK1624	02 Dec 1992
Twite	1	SK1624	01 Apr 1992
Twite	1	SK1824	10 Sep 1989
Viviparous Lizard		SK1524	- 1960
Wall		SK162215	1981

Section 74, BAP1 & SBAP Species 3Km SK165, 235, Byrkeley for BSG

COMMON NAME	Status at Site	GRID REF	DATE
Willow Tit	1 present	SK1523	11 OCT 2003
Willow Tit	1	SK1423	31 Dec 2005
Willow Tit	1	SK1825	27 Dec 2006
Willow Tit	1	SK1623	11 May 2005
Willow Tit	1	SK1623	15 May 2005
Willow Tit	2	SK1623	18 Mar 2005
Willow Tit	1	SK1623	04 Mar 2006
Willow Tit	Adult	SK1621	01 Mar 2007
Willow Tit	1 Adult	SK1621	01 Mar 2007
Yellow Wagtail	1	SK1825	04 Jul 2005
Yellow Wagtail	1	SK1623	09 Oct 2005
Yellow Wagtail	1	SK1624	10 Apr 2005
Yellow Wagtail	2	SK1624	04 Sep 2005
Yellow Wagtail	5	SK1624	27 Aug 2005
Yellow Wagtail	2 Breeding (confirmed)	SK1624	May 2005
Yellow Wagtail	5	SK1624	14 May 2005
Yellow Wagtail	2	SK1624	01 May 2005
Yellow Wagtail	1	SK1624	12 Sep 2005
Yellow Wagtail	4	SK1624	07 Sep 2005
Yellow Wagtail	9 Breeding (confirmed)	SK1624	14 Jul 2006
Yellowhammer	2 males, singing/mating calls	SK167212	27 FEB 2006
Yellowhammer	1 male	SK146230	24 JUN 2006
Yellowhammer	1 calling/vocalising	SK164212	20 JAN 2007
Yellowhammer	present	SK154208	06 AUG 2004
Yellowhammer	3 presents	SK1523	05 DEC 2002
Yellowhammer	10	SK1623	2006
Yellowhammer	Adult	SK1621	02 May 2007
Yellowhammer	8	SK1624	22 Oct 2005

I trust that this answers your inquiry, if you have any questions, please do not hesitate to contact me. Please be aware that Staffordshire Wildlife Trust will shortly raise an invoice for £185.00+VAT to cover the cost of processing this inquiry.

Yours sincerely,

Andy Leak,
Principal Environmental Information Officer,
on behalf of Staffordshire Ecological Record.

Disclaimer

Introduction

The following outlines the limitations and restrictions covering the uses of data supplied by Staffordshire Ecological Record, together with the limitations of the original data.

Important Considerations

1. Information supplied by SER is always based on historical data of varying age and it only based upon the records supplied to SER. This should not be seen as an alternative to on site work. Absence of records should not be seen as definitive proof of the absence of the species or habitat in the search area.
2. Mobile species can move and their presence within the search area could be resident (present all year),
seasonal (only present for part of the year) or incidental (species just passing through).

Species based information

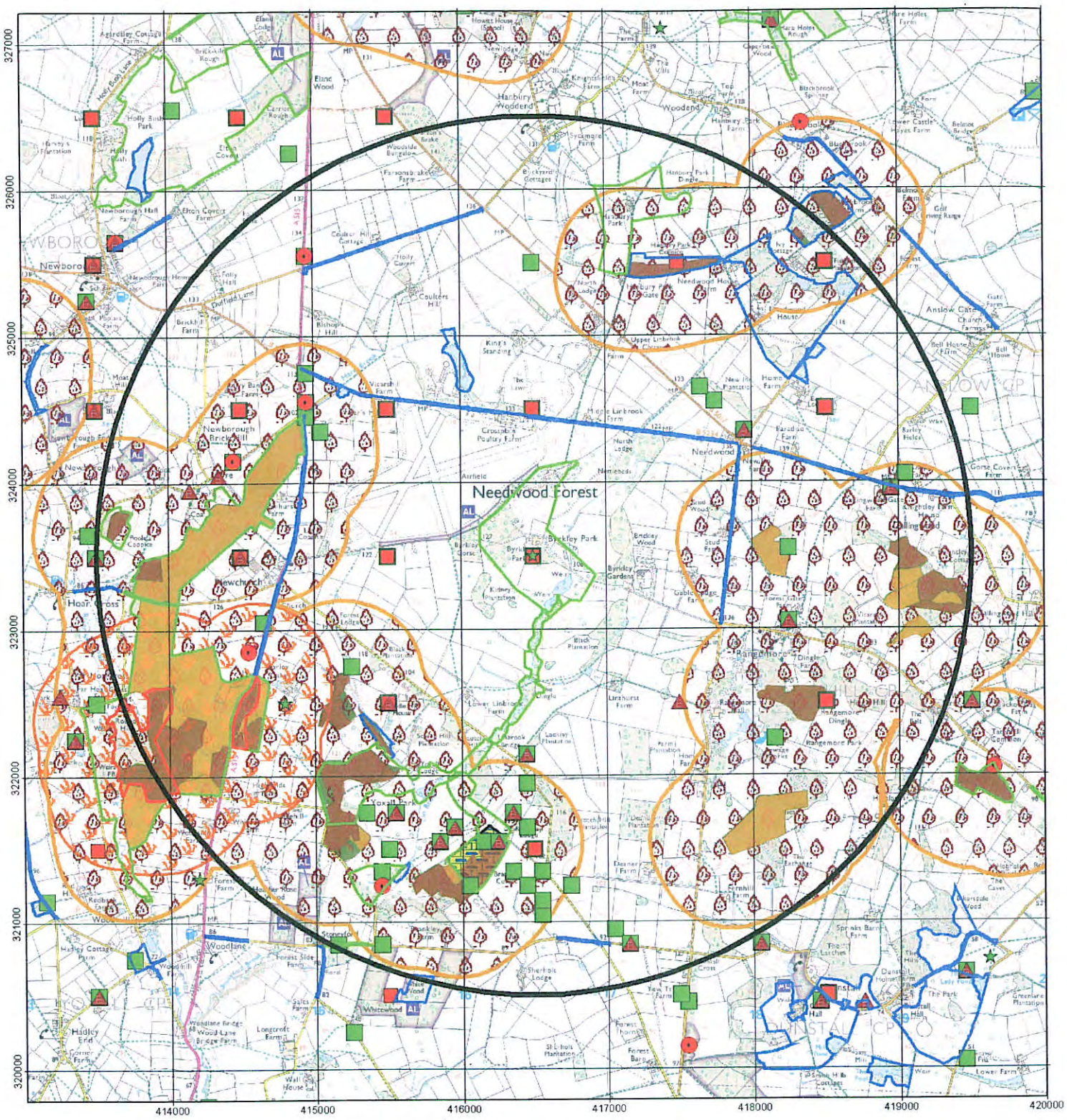
The locations of protected and Biodiversity Action Plan priority species are supplied subject to the following
limitations:
1. Unless otherwise stated, the information relating to species records is as accurate as possible, but is reliant on the quality of the original data supplied to SER. SER cannot be responsible for any errors in the data, nor the consequences of their use.
2. Unless otherwise stated, personal information is not normally supplied in reports, however, if present, it is deemed confidential under the Data Protection Act and should not be passed to a third party.
3. Unless otherwise stated, records of badger (*Meles meles*) and all bat species are deemed confidential and can only be published at reduced resolution (1km precision) even where precise information is supplied by SER for analysis purposes. Under certain circumstances, other species records may be deemed sensitive and need to be handled in a similar fashion.

Site based information

The boundaries of Sites of Biological Importance (SBIs), Biodiversity Alert Sites (BASs) or Regionally Important Geological/Geomorphological Sites (RIGS) are supplied subject to the following limitations:
1. Site boundaries are as precise as the original survey maps and base mapping allow.
2. The presence of a marked boundary on supplied maps does not infer any right of public access. Gaining permission to visit is the client's responsibility.
3. Site status is conferred by a Grading Committee and is correct at the time of survey. Changes may have occurred since survey which affect the site's quality, however, the grading remains in effect until reviewed by the Grading Committee.
4. The boundaries of Sites of Special Scientific Interest (SSSIs) and other statutory sites may be included on maps, but are not the property of SER. These are reproduced under licence to English Nature to add value to the report.
5. Maps produced on an Ordnance Survey base map must not be copied or further duplicated because this will infringe OS Copyright restrictions.

General comments

Staffordshire Ecological Record strives to supply information which is accurate, up-to-date and relevant and where possible will indicate the limitations of any given dataset. However, SER cannot be responsible for any errors in supplied information or the consequences of their usage unless the client has checked with SER and SER has failed to act on any known errors.
1. Although SER can analyse and interpret data if required, it must remain impartial and cannot comment on the merits of any change in land use.
2. Information supplied free-of-charge for educational or private purposes must not be used for profit-making ends.
3. All reports produced by SER are deemed the copyright of Staffordshire Ecological Record, and SER must be cited or acknowledged on any publication using said information, however, individual records remain the intellectual property of the original recorder and may require additional acknowledgement if requested by SER.



Sites and Species records 3Km of SK165, 235, Byrkeley Park for BSG

- 3Km Sites and Species Search Area
- Centre Point of Radius Search
- Sites of Special Scientific Interest
- Grade 1 SBIs
- Biodiversity Alert Sites

All ancient woodlands

STATUS

- ASNW
- PAWS
- Staffordshire Wildlife Trust Nature Reserves

European Protected Species

COMMONNAME

- Great Crested Newt
- Bat (All species)
- Otter
- Floating Water-plantain
- Common Dormouse
- Natterjack Toad

Other Protected Species

- 1Km Accuracy
- 100m Accuracy
- 10m Accuracy
- Section 74 & SBAP Species

- County and District Boundaries
- SSSI 500m Consultation Zone
- 500m FC Consultation zone for New Build

PRIHABTXT

- Lowland mixed deciduous woodland
- Wet woodland

Date: 03/09/2008 Scale at A3: 1:25,000

Staffordshire Ecological Record SBI Report

Staffordshire Ecological Record

12/63/56

Site Name: **Byrkley Park**

Parent Site: **Byrkley Park (overview), Needwood Forest** (12/74/00)

Locality Type: **Wood-pasture and parkland {P}**

Grid Ref.: SK165236

GB Vice-County: Staffordshire

Civil Parish: Tatenhill (East Staffordshire, Staffordshire, England)

Keywords

Keyword	Details	Date
Original Recorder Code	201508	no date
Wood Pasture		
Number of Veteran Trees per Hectare	0.28	1999

Biotopes (Habitats)

Code	Habitat	Area
A33	Parkland/scattered trees: mixed	66.00
G103	Open water: standing, lakes 0.5-5ha	1.00

Dimensions

Dimension	Value/units
area	67ha

Contacts

Role	Date	Contact
field surveyor	1999	Bowler, Mr Josh

Site Description

Source: **Bowler, Mr Josh, 1999**

Summary:

The site is situated 2km east of the A515, 1km south west of Kings Standing. An airfield borders the North west of the site; arable land surrounds the remainder of the site. There is a fishing pool towards the southwestern edge. The site is not a continuum of wood pasture as arable land can be found across much of the middle and northern edge. There are disused buildings at two locations on the site.

Scattered throughout the non-arable areas are a mixture of ash, hawthorn, silver birch, wych elm and sessile oak, with pendunculate oak being the predominant species. There are occasions of larch and other conifers. Ground flora is abundant with perennial rye- grass, curled dock, Yorkshire fog, false oat-grass and meadow foxtail. There are frequent amounts of creeping bent, crested dog's tail, creeping soft-grass and timothy. Herbs at the site include, birds foot trefoil, red bartsia, white and red clover and meadow buttercup.

The main feature of this site is the veteran trees, of which there are 19, all oaks, many with girths in excess of 5m. These are mainly found on the northwestern side of the site. There are two main proliferations of veteran wood-pasture, one of which has disused RAF sheds amongst the trees. Fallen deadwood in this particular area is abundant, there are also several standing dead trees.

Saproxylic species recorded from this site include the Wasp Beetle (Clytus arietis) and the Death

Watch Beetle (Xestobium rufovillosum). Brown hares and buzzards can all be seen at the site.

Bibliography

described **SWT (2000)**
Staffordshire Wood Pasture and Parkland Survey; Staffordshire Wildlife Trust, Sandon, Stafford

Species List

Staffordshire Ecological Record SBI Species List

Staffordshire Ecological Record

Species List for Byrkley Park

Byrkley Park

Bowler, Mr J. (24 AUG 1999)

Birds (Chordata: Aves)		
Buteo buteo	Common Buzzard	occasional
Vascular Plants (Tracheophyta)		
Pteridium aquilinum	Bracken	locally abundant
Larix decidua	European Larch	locally frequent
Ranunculus acris	Meadow Buttercup	frequent
Betula pendula	Silver Birch	locally abundant
Fagus sylvatica	Beech	rare
Fagus sylvatica 'Purpurea'		rare
Quercus petraea	Sessile Oak	occasional
Quercus robur	Pedunculate Oak	frequent
Stellaria media	Common Chickweed	locally frequent
Rumex crispus	Curled Dock	locally abundant
Ulmus glabra	Wych Elm	locally frequent
Urtica dioica	Common Nettle	locally abundant
Crataegus monogyna	Hawthorn	locally frequent
Rubus fruticosus agg.	Bramble	locally frequent
Sorbus aucuparia	Rowan	occasional
Lotus corniculatus	Common Bird's-foot-trefoil	rare
Trifolium pratense	Red Clover	occasional
Trifolium repens	White Clover	frequent
Ulex europaeus	Gorse	rare
Chamerion angustifolium	Rosebay Willowherb	locally frequent
Aesculus hippocastanum	Horse-chestnut	occasional
Anthriscus sylvestris	Cow Parsley	occasional
Heracleum sphondylium	Hogweed	occasional
Fraxinus excelsior	Ash	occasional
Plantago major	Greater Plantain	locally frequent
Odontites vernus	Red Bartsia	rare
Galium aparine	Cleavers	locally frequent
Arctium minus	Lesser Burdock	occasional
Cirsium arvense	Creeping Thistle	frequent
Cirsium vulgare	Spear Thistle	occasional
Hypochaeris radicata	Cat's-ear	occasional
Matricaria discoidea	Pineappleweed	locally frequent
Taraxacum aggregate		frequent
Agrostis stolonifera	Creeping Bent	locally abundant
Alopecurus pratensis	Meadow Foxtail	locally abundant
Arrhenatherum elatius	False Oat-grass	locally abundant
Cynosurus cristatus	Crested Dog's-tail	occasional
Dactylis glomerata	Cock's-foot	frequent
Holcus lanatus	Yorkshire-fog	abundant

Holcus mollis	Creeping Soft-grass	locally frequent
Phleum pratense agg.		locally frequent
Juncus effusus	Soft-rush	locally abundant
Mammals (Chordata; Mammalia)		
Lepus europaeus	Brown Hare	frequent

Staffordshire Ecological Record SBI Report

Staffordshire Ecological Record

12/62/44

Site Name: **Lin Brook**

Locality Type: **Broadleaved, mixed and yew woodland {B}**

Grid Ref.: SK164224

Civil Parish: Tatenhill (East Staffordshire, Staffordshire, England)

GB Vice-County: Staffordshire

Civil Parish: Yoxall (East Staffordshire, Staffordshire, England)

Keywords

Keyword	Details	Date
Original Recorder Code	81131	no date

Biotopes (Habitats)

Code	Habitat	Area
A111	Woodland: broadleaved, semi-natural	8.30
A112	Woodland: broadleaved, plantation	0.40
A22	Scrub: scattered	
B11	Grassland: acid, unimproved	0.30
B21	Grassland: neutral, unimproved	0.50
B22	Grassland: neutral, semi-improved	0.10
F21	Marginal/inundation: marginal	
G11	Open water: standing, eutrophic	0.30
G21	Open water: eutrophic running water	

Dimensions

Dimension	Value/units
area	9.9ha

Contacts

Role	Date	Contact
field surveyor	1997	Allen, Mr Richard J.
landowner	1997	Clarke, Mr Simon
landowner	1997	Featherstone, Mr J.

Site Description

Source: **Allen, Mr Richard J., 1997**

Summary: A wooded stream valley with small areas of unimproved grassland and scrub.

The site extends for 2km between Yoxall Park in the south and Byrkley Park in the north. It consists mainly of the steep wooded slopes of the Lin Brook valley, which are fenced from the surrounding improved grassland. It also includes several steep scrubby slopes which have been encorporated into the adjacent fields and are grazed by cattle. Access to the adjacent Toterall's Plantation was denied by the gamekeeper and is not included in the site.

The Wooded slopes

Most of the Lin Brook corridor is occupied by broadleaved woodland with a canopy of Alder by the

brook itself, giving way to Ash with Oak and Sycamore on the drier slopes. Occasional Beech trees are also present and The Dingle contains several Lime trees. The understorey includes Elder, English Elm, Wych Elm, Hawthorn and Holly, with patches of Rhodedendron at the southern end of the site, adjacent to Toterall's Plantation.

The ground flora is generally rich, particularly on the steeper slopes, consisting of abundant Dog's Mercury, with patches of Bluebell and several species normally associated with ancient woodlands such as Wood Sorrel and Three-veined Sandwort. Other species present include Wood Avens, Primrose, Herb Robert, Red Campion, Enchanter's Nightshade, Wood Speedwell, Common Figwort, Hairy Brome and Giant Fescue. In the wettest areas, adjacent to the brook, the ground flora also includes Meadowsweet, Wild Angelica and Reed Canary-grass.

In the area immediately north of Linbrook Bridge the canopy is very open and the ground flora is poorer than in the rest of the site, consisting mainly of Nettle and Bramble.

The Grassland

The main area of grassland occurs immediately to the south of Linbrook Bridge, which was cleared of woodland at some point in the distant past. Most of the field is improved, but the steep valley slopes still retain patches of unimproved neutral grassland with scattered scrub. These areas have a grass sward of Yorkshire Fog, Crested Dog's-tail, Common Bent and Cock's-foot. Also present are a wide variety of broadleaved species including Black Knapweed, Autumn Hawkbit, Common Cat's-ear, Ribwort Plantain, Selfheal, Crosswort, Creeping Cinquefoil, Ladies Mantle and Creeping Jenny. Scrub species include Hawthorn, Blackthorn and Dog Rose, which also provide a habitat for shade-loving plants such as Common Dog-violet, Ground Ivy and Dog's Mercury.

The field to the east of the dingle contains a steep bank just to the south of the public footpath. This supports a small area of unimproved acidic grassland of Common Bent, Heath Bedstraw, Tormentil, Common Cat's-ear and the moss Rhytidiadelphus squarrosus.

The Brook and Lakes

Lin Brook was not flowing at the time of the survey, and consisted of a series of stagnant pools. The bed is 1 m to 3 m wide and formed by gravel. The banks are very steep, vertical in places, and up to 5 m high, with rich growths of mosses and liverworts. Aquatic vegetation is mainly restricted to the open unshaded stretches of the brook and includes Brooklime, Tufted Forget-me-not and Gipsywort.

To the east of Lower Linbrook Farm a small lake has been excavated along the course of the brook. This has a narrow strip of marginal vegetation including Soft Rush, Great Willowherb, Meadowsweet, Fool's Water-cress and Water Mint.

Access was not permitted to the fish ponds at Yoxall Park and Byrkley Park.

Fauna at the site

The site supports a large population of common woodland birds and a Buzzard was seen circling over the Dingle. Butterflies seen during the survey include Speckled Wood in the woodland and Small Tortoiseshell, Common Blue and Small Copper on the grassy slopes. The lake provides a habitat for dragonflies including Common Darter and Blue-tailed Damselfly, and several Common Frogs were seen by the brook.

Bibliography

described **Allen, R. (1997)**
The SBI Resurvey of East Staffordshire Additional Sites 1997; Staffordshire Wildlife Trust, Sandon

Species List

Staffordshire Ecological Record SBI Species List

Staffordshire Ecological Record

Species List for Lin Brook

Field E. of The Dingle, Lin Brook

Grassland: acidic, unimproved, lowland

Allen, Mr R.J. (26 AUG 1997)

Vascular Plants (Tracheophyta)

Ranunculus repens	Creeping Buttercup	occasional
Crataegus monogyna	Hawthorn	frequent
Potentilla erecta	Tormentil	frequent
Galium saxatile	Heath Bedstraw	abundant
Achillea millefolium	Yarrow	locally frequent
Arctium minus	Lesser Burdock	rare
Centaurea nigra	Common Knapweed	occasional
Cirsium arvense	Creeping Thistle	occasional
Hypochaeris radicata	Cat's-ear	frequent
Agrostis capillaris	Common Bent	abundant
Holcus mollis	Creeping Soft-grass	locally frequent

Mosses & Liverworts (Bryophyta)

Rhytidiadelphus squarrosus	Springy Turf-moss	abundant

Field S. of Linbrook Bridge, Lin Brook

Grassland: neutral, unimproved, lowland

Allen, Mr R.J. (26 AUG 1997)

Vascular Plants (Tracheophyta)

Ranunculus repens	Creeping Buttercup	frequent
Quercus robur	Pedunculate Oak	occasional
Cerastium fontanum	Common Mouse-ear	occasional
Stellaria media	Common Chickweed	occasional
Rumex acetosa	Common Sorrel	occasional
Viola riviniana	Common Dog-violet	occasional
Lysimachia nummularia	Creeping-Jenny	occasional
Alchemilla filicaulis	Hairy Lady's-mantle	occasional
Crataegus monogyna	Hawthorn	occasional
Potentilla reptans	Creeping Cinquefoil	locally frequent
Potentilla sterilis	Barren Strawberry	occasional
Prunus spinosa	Blackthorn	occasional
Rosa canina agg.		occasional
Trifolium repens	White Clover	frequent
Mercurialis perennis	Dog's Mercury	occasional
Heracleum sphondylium	Hogweed	occasional
Fraxinus excelsior	Ash	occasional
Glechoma hederacea	Ground-ivy	locally frequent
Prunella vulgaris	Selfheal	occasional
Plantago lanceolata	Ribwort Plantain	frequent
Plantago major	Greater Plantain	occasional
Cruciata laevipes	Crosswort	occasional
Achillea millefolium	Yarrow	occasional

Centaurea nigra	Common Knapweed	occasional
Hypochaeris radicata	Cat's-ear	frequent
Leontodon autumnalis	Autumn Hawkbit	frequent
Senecio jacobaea	Common Ragwort	frequent
Taraxacum aggregate		occasional
Agrostis capillaris	Common Bent	frequent
Cynosurus cristatus	Crested Dog's-tail	frequent
Dactylis glomerata	Cock's-foot	frequent
Holcus lanatus	Yorkshire-fog	abundant
Lolium perenne	Perennial Rye-grass	frequent
Reptiles and Amphibians (Chordata; Reptilia/Amphibia)		
Rana temporaria	Common Frog	

Lake E. of Linbrook Fm., Lin Brook

Marginal/inundation: marginal

Allen, Mr R.J. (26 AUG 1997)

Birds (Chordata: Aves)		
Anas platyrhynchos	Mallard	
Gallinula chloropus	Common Moorhen	
Vascular Plants (Tracheophyta)		
Alnus glutinosa	Alder	frequent
Salix fragilis	Crack-willow	frequent
Filipendula ulmaria	Meadowsweet	occasional
Epilobium hirsutum	Great Willowherb	frequent
Apium nodiflorum	Fool's-water-cress	locally frequent
Myosotis laxa	Tufted Forget-me-not	occasional
Lycopus europaeus	Gypsywort	occasional
Mentha aquatica	Water Mint	occasional
Veronica beccabunga	Brooklime	occasional
Juncus effusus	Soft-rush	locally frequent

Wooded Stream Banks, Lin Brook

Woodland: broadleaved, semi-natural, high forest

Allen, Mr R.J. (26 AUG 1997)

Pteridium aquilinum	Bracken	locally abundant
Dryopteris dilatata	Broad Buckler-fern	occasional
Dryopteris filix-mas agg.		occasional
Ranunculus repens	Creeping Buttercup	locally frequent
Alnus glutinosa	Alder	abundant
Fagus sylvatica	Beech	occasional
Quercus robur	Pedunculate Oak	frequent
Moehringia trinervia	Three-nerved Sandwort	occasional
Silene dioica	Red Campion	occasional
Tilia x europaea	Lime	occasional
Ulmus glabra	Wych Elm	occasional
Ulmus procera	English Elm	occasional
Urtica dioica	Common Nettle	abundant
Viola riviniana	Common Dog-violet	occasional
Cardamine flexuosa	Wavy Bitter-cress	occasional
Rhododendron ponticum	Rhododendron	locally frequent
Primula vulgaris	Primrose	occasional
Crataegus monogyna	Hawthorn	frequent
Filipendula ulmaria	Meadowsweet	occasional