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Stratford on Avon District Ecological and Geological Assessment

**Habitat Biodiversity Audit &
Warwickshire Biological Records Centre**

**c/o Warwickshire Museum Field Services
The Butts, Warwick, CV34 4SS
2009/10**

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Title: Stratford on Avon District Ecological and Geological Assessment

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1.0 Introduction

- The Habitat Biodiversity Audit Partnership¹ (HBA) was approached in early March 2009 by Stratford on Avon District Council to undertake Habitat Surveys and a geological assessment of nine townships within Stratford on Avon District. The work was commissioned on 18th March 2009.
- The District Council is currently preparing its Local Development Framework (LDF) Core Strategy in accordance with Government requirements and in parallel with the revision of WM RSS.
- The District Council has identified the possible expansion of nine townships to assess in relation to the LDF.

1.1 Planning and Legal Context

National and legal framework

There are a number of planning guidance, biodiversity and geodiversity strategies and policy statements which are key to the planning process. These include:

- Planning Policy Statement 1 (PPS1) “Delivering Sustainable Development”, 2005, sets out the Government’s overall approach to planning. It should be read in conjunction with other guidance.
- The core principle underpinning planning in the UK is the concept of sustainable development. The Government’s four aims for sustainable development are:
 - social progress which recognises the needs of everyone,
 - effective protection of the environment,
 - the prudent use of natural resources, and
 - the maintenance of high and stable levels of economic growth and employment.
- In preparing development plans local authorities should look to the long term, recognise the needs of the community to secure a better quality of life, and not impose disproportionate social, economic or environmental costs. The plans must be properly based on analysis and evidence.
- Planning Policy Statement 3 (PPS3) “Housing”, 2006, gives guidance on identifying sustainable locations for housing development, and on measuring

¹ The HBA partnership consists of representatives from all Local Authorities within Warwickshire Coventry and Solihull plus Warwickshire Wildlife Trust and Natural England. It is tasked to produce and maintain a phase 1 and priority Biodiversity Action Plan habitat GIS audit of their area.

performance of development plans in achieving housing supply and monitoring this.

- The UK Biodiversity Strategy: “Working with the Grain of Nature” (Defra, 2002) aims to ensure that construction, planning, development and regeneration have minimal adverse impacts on biodiversity² and enhance it where possible.
- Planning Policy Statement 9 (PPS9) “Biodiversity and Geological Conservation” (August 2005) has a key principle that “development plan policies and planning decisions should be based upon up-to-date information about the environmental characteristics of their areas. In reviewing environmental characteristics local authorities should assess the potential to sustain and enhance those resources”. Local Authorities should take an integrated approach to planning for biodiversity and geodiversity when preparing local development documents.
- PPS9 under Network of Natural Habitats states that “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. This may be done as part of a wider strategy for the protection and extension of open space and access routes such as canals and rivers, including those within urban areas”. Biodiversity should not be restricted to statutory and non-statutory ecological sites.

UK Biodiversity Action Plan

- The UK Biodiversity Action Plan (UK BAP) is the UK Government’s response to the Convention on Biological Diversity, signed by over 150 countries in 1992. The UK BAP (updated 2007) sets aims and targets to increase a number of species and habitats which are priorities for conservation action in the UK. Species Action Plans (SAPs) and Habitat Action Plans (HAPs) exist at a national level for threatened habitats and species, and at a local level the Local Biodiversity Action Plan (LBAP) contributes to national targets wherever these are relevant to Warwickshire, Coventry and Solihull.
- Warwick District Council has signed the Regional Biodiversity Partnership pledge (July 2008) showing commitment to the natural environment.

There are local **SAPs** for 26 priority species which are declining or of locally threatened and therefore relevant to this assessment. These are:-

Mammals – otter, water vole, all bat species, common dormouse

² Biodiversity encompasses the whole variety of life on Earth. It includes all species of plants and animals, but also their genetic variation, and the complex ecosystems of which they are a part. It covers the whole of the natural world, from the commonplace to the critically endangered.

Reptiles and amphibians – adder, great crested newt

Crustaceans - White-clawed crayfish

Birds – farmland birds, barn owl, bittern, lapwing, snipe, song thrush

Invertebrates - Bloody-Nosed Beetle, Chalk Carpet Moth, (A) Cuckoo Bee, Dingy Skipper, Dotted Bee-Fly, (A) Leaf-Rolling Weevil, Rare Bumblebees, Small Blue Butterfly, Red Wood Ant, Wood White Butterfly

Flora – Black poplar, Scarce Arable Plants

There are 24 local **HAPs** for priority habitats which are of conservation concern, as follows:

(Lowland) Acid Grassland
(Lowland) Calcareous Grassland
Field Margins
(Lowland) Heathland
Hedgerows
(Lowland) Neutral Grassland
Scrub & Carr
Traditional Orchards
Woodlands
Wood-Pasture, Old Parkland & Veteran Trees
Allotments
(The) Built Environment
Canals
Churchyards & Cemeteries
Disused Industrial & Railway Land
Ponds, Lakes & Reservoirs
Fen & Swamp
Gardens
Parks & Public Open Spaces
Quarries & Gravel Pits
Reedbeds
Rivers & Streams
Roadside Verges
School Grounds

- Many of these habitats and species are relevant to Stratford on Avon District and to the areas surveyed. The action plans for safeguarding and restoring the status of habitats and species need to be used in the forward planning for the district. There are opportunities to significantly contribute to implementation of the LBAP and to restore some habitats which have been lost in previous years. It should be noted that whilst positive action is enhancing and restoring the condition of some species and habitats, there are more situations where the reverse is true and overall loss is greater than gains.
- The main act of law for protection of wildlife in the UK is The Wildlife and Countryside Act (as amended) (1981) ('WCA'). The act was amended by the

Countryside and Rights of Way Act (CROW) in 2000 which strengthened the protection of threatened species.

Trees and Hedgerows

- Retained trees and hedgerows should be protected during any development in accordance with British Standard BS5837: 1991, 'A Guide for Trees in Relation to Construction'. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally.
- The Hedgerows Regulations 1997 makes it unlawful to remove a rural hedgerow without obtaining permission from the local planning authority (through submitting a hedgerow removal notice). Mature trees within hedgerows can be protected by Tree Preservation Orders and may require a felling licence. Some species associated with hedges (nesting birds, badgers, bats and great crested newts receive legal protection under the Wildlife & Countryside Act 1981 (as amended).

The 'Hedgerow Regulations 1997' (HMSO, 1997) specify that a hedgerow is deemed 'important' if it, or the hedgerow of which it is a stretch:

- (a) has existed for 30 years or more, and,
- (b) satisfies at least one of the criteria in Part II of Schedule 1.

The criteria listed in Part II of Schedule 1 consists of the following:

- (i) Historic hedgerow existing before 1850.
- (ii) The hedgerow incorporates an archaeological feature.
- (iii) The hedgerow contains at least seven woody species, on average, in a 30m length or six woody species plus three associated features (these features include a ditch, bank, three woodland species on the outermost metre of the hedgerow, etc), on average, in a 30m length or at least five woody species and at least four associated features, on average, in a 30m length.

UK Geodiversity Action Plan

A UK GAP (Geodiversity Action Plan) is currently under consultation, following establishment of a 'core group' of organisations and individuals in 2006. As a starting point the UK GAP is primarily aimed at the geological community and seeks to establish a framework for geoconservation which sets out broadly shared aims and objectives and series of targets and actions. It is anticipated though that as the UK GAP evolves so will it grow to strengthen the links between people, landscape and their culture.

Warwickshire Local Geodiversity Action Plan

In 2009, the Warwickshire Geological Conservation Group (WGCG) and Warwickshire Museum sent out the draft Warwickshire LGAP to prospective consultees and partners. Responses have been received and compiled, and soon a Geodiversity Partnership will be established to formalise the aims and objectives of the emerging LGAP. It will have as a prime objective the involvement of the public in understanding, conserving and promoting Warwickshire's rich geological heritage. The Warwickshire LGAP will form just one part of what the Government and the UK geological conservation community intends should be a national coverage of such plans.

2.0 Methodology

In order to assess the existing ecological interest within the areas for survey, a Phase 1 Habitat Survey was undertaken. Habitat surveys were completed between 13th July 2009 and 13th August 2009. It should be noted that Phase 1 surveys are a limited method for assessing the full quality of any given habitat and only give a base line ecological result to highlight areas for further survey, however the studies undertaken are sufficiently robust for the purposes of this report.

A total of nine settlements were selected for evaluation, Stratford-Upon-Avon, Southam, Henley-in-Arden, Studley, Wellesbourne, Shipston-on-Stour, Bidford-on-Avon, Alcester and Kineton. A buffer perimeter of 500 metres was decided for each settlement and all habitats within this perimeter were to be surveyed at Phase 1 standard. A 500 metre buffer zone was considered an appropriate assessment area placing any proposed development in a local ecological context enabling interpretation of both habitat and connectivity impacts.

A total of five members of staff (split on a part time basis) surveyed a total area of approximately 4,300 hectares covering nine settlement locations within Stratford on Avon District. The settlements have been divided into sections based on geographical location, to ensure a more focused evaluation. Each section/area is assigned relevant habitat codes and target notes via the Phase 1 habitat survey. A list of recommendations and recommendations for further surveys were produced during the desktop analysis and are provided for each settlement area. Although a full species survey was not commissioned as it is not necessary at this strategic level, specific habitat types that have potential to support protected species are highlighted for further survey within the report.

Geological summaries were prepared by one member of staff (Warwickshire Museum's Keeper of Geology, working on a full-time basis), using the desk-top resources of Warwickshire Museum's Geological Localities Record Centre.

2.1 Pre Desk Top Surveys

Each of the nine settlements was split into tetrads for the Phase 1 habitat surveys. Settlements were surveyed using the tetrad system as this is the standardised methodology currently used by the HBA project. A tetrad is a 4 km block that is given a code to identify it within the county, for example SP24K. The letters 'SP' (which can be found in front of the target notes or Local Wildlife Site codes as well as the tetrad references) represent the area of the country, which has been coded by Ordnance Survey using their National Grid system. Great Britain is covered by 100 kilometre grid squares; each grid square is identified by two letters as shown by diagram A. These squares are further divided into smaller squares by grid lines representing 10 kilometre spacing, each number from 0 to 9 from south-west corner, in an easterly (left to right) and northerly (upwards) direction, as shown in diagram B. Each 10 kilometre square is then split into 2x2 kilometre squares (i.e. 4km squares known as 'tetrads' by the HBA) that are assigned a letter of the alphabet (omitting the letter O to avoid confusion with the number 0). These numbers and letters then allow the HBA to reference specific target notes with their location 'SP24k' and then the target note number SP24k'2' is added at the end to reference the exact individual target note.

Target notes are a collection of notes recorded by the surveyors. A surveyor writes a description and a limited species list for a habitat, predominantly focusing on the habitats that may need further survey or habitats that are more significant in terms of the biodiversity value or to record rare or uncommon species. These recorded descriptions are then used in repeat surveys to determine whether there has been any habitat or land use change and the extent thereof. A surveyor can then annotate existing target notes and add new ones. This descriptive map enables a more educated analysis.

100km Grid squares

Great Britain is covered by 100 x 100 kilometre grid squares, each grid square is identified by two letters.

click on the TL grid square to see how we derive a more detailed reference

HL	HM	HN	HO	HP	JL	JM
HQ	HR	HS	HT	HU	JQ	JR
HV	HW	HX	HY	HZ	JV	JW
NA	NB	NC	ND	NE	OA	OB
NF	NG	NH	NJ	NK	OF	OG
NL	NM	NN	NO	NP	OL	OM
NQ	NR	NS	NT	NU	OQ	OR
NV	NW	NX	NY	NZ	OV	OW
SA	SB	SC	SD	SE	TA	TB
SF	SG	SH	SJ	SK	TF	TG
SL	SM	SN	SO	SP	TL	TM
SQ	SR	SS	ST	SU	TQ	TR
SV	SW	SX	SY	SZ	TV	TW

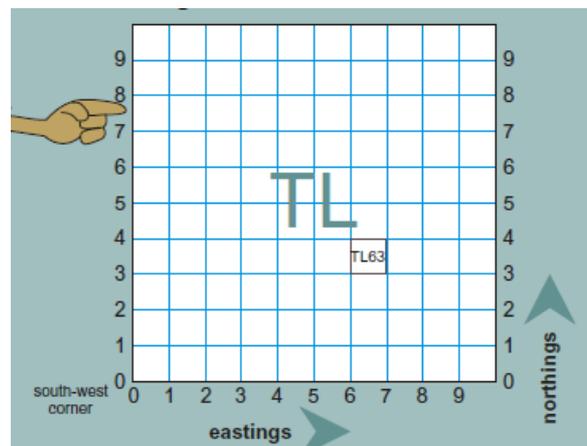


Diagram A

(Inserts taken from Ordnance Survey website)

Diagram B

Only the area within the settlement's buffer zone or development area boundary was surveyed for each tetrad. Settlements were surveyed using tetrads as this is the standard survey technique used by the HBA, therefore it was not necessary to produce new templates for survey maps and forms. Each tetrad has a total of 8 maps produced these include aerial photography (Figure 1), OS Landline (Figure 2), HBA habitats (Figure 3), Linear features and target notes (Figure 4) and 4 landline maps for each smaller quadrant of the tetrad for annotation (Figure 5).

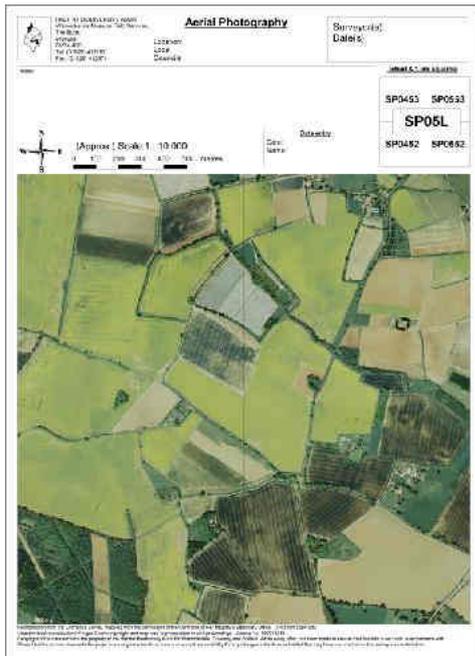


Figure 1

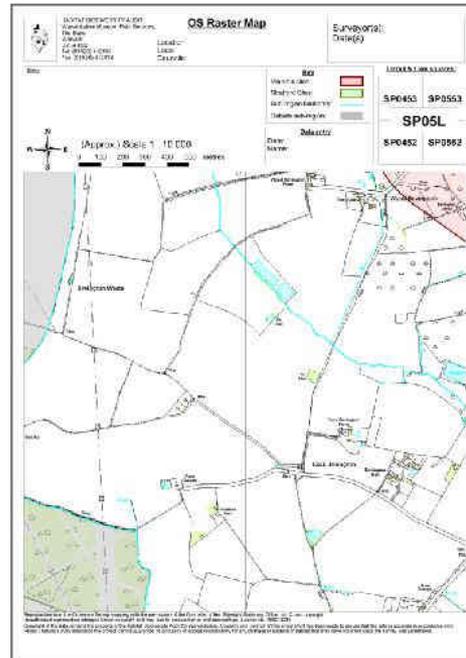


Figure 2

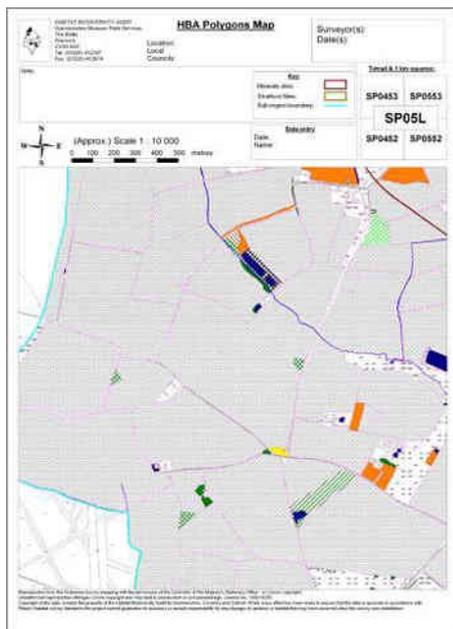


Figure 3



Figure 4

A list of all target notes for that tetrad also accompanied these maps together with survey forms to be completed in the field (Figure 6). Only the areas within the survey areas (i.e. within the 500m buffer zone or the development areas) were surveyed.

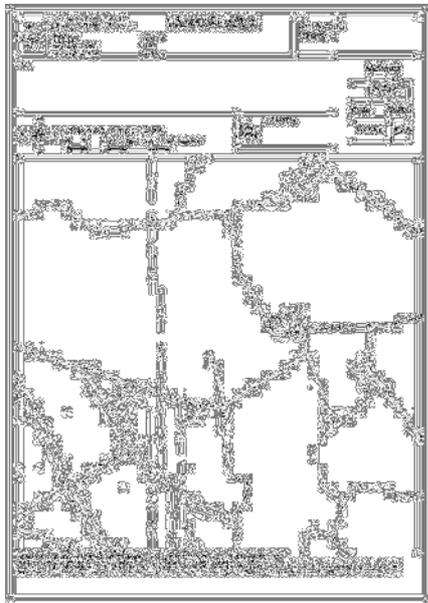


Figure 5

Field No	Area	Notes
1	100m x 100m	...
2	100m x 100m	...
3	100m x 100m	...
4	100m x 100m	...
5	100m x 100m	...
6	100m x 100m	...
7	100m x 100m	...
8	100m x 100m	...
9	100m x 100m	...
10	100m x 100m	...
11	100m x 100m	...
12	100m x 100m	...
13	100m x 100m	...
14	100m x 100m	...
15	100m x 100m	...
16	100m x 100m	...
17	100m x 100m	...
18	100m x 100m	...
19	100m x 100m	...
20	100m x 100m	...

Tetrad: 3051

Surveyor: Steve Tame

Date: 01/05/98

1. Field surrounded by oak and willow with Hawthorn, black horn and dog rose scrub. At the time of survey the water level was extremely high and the only emergent species visible was *Phragmites australis*.
2. New broad leaved plantation over rough *Arrhenatherum elatius* and *Dactylis glomerata* grassland and tall natural. 5 seedings included ash, oak and Hawthorn.
3. Poorly improved pony grazed paddock with occasional dove's foot crane's bill, mouse ear and dock.
4. Poor rough grassland dominated by *Alopecurus pratensis* and *Dactylis glomerata* with a small overgrown pond.
5. New meadow with frequent *Alopecurus pratensis*, *Elymus repens*, *Arrhenatherum elatius*, *Phragmites australis* and occasional *Dactylis glomerata* and *Phlebotium proserpae*. Herbs include frequent snail, hibernian plantain, mouse-ear and nasturtium and a rush in the pool.
6. Poorly improved pasture of *Phlebotium proserpae* and *Dactylis glomerata*. Ditch in the middle of the field with mouse ear, cow parsley, creeping thistle, and occasional lady's smock.
7. Narrow strip of grassland between arable fields on the site of a closed hedgehog, with abundant cow parsley and locally abundant grasses.
8. Tall sward, species such as cow parsley, nettle and dogwood with *Alopecurus pratensis*, *Phlebotium proserpae*, *Elymus repens* and *Dactylis glomerata*. Also present were frequent great burnet and meadowweet.
9. Small fishing pond. The southern end of the pond is more recent and largely surrounded by bare earth with cow parsley and *Scirpus riparius* starting to become established. The northern and more established pond has a bank on the east and a Hawthorn, ash and field maple hedge on the west with field dog rose, elder, barberry and nettle. The vegetated area of bank includes abundant meadowweet, with frequent to occasional coltsfoot, cowslip, field horsetail and bristly ox tongue. Emergent species are patchy but well established in some areas and include *Scirpus riparius*, *Phragmites australis*, *Phlebotium proserpae*, *Phlebotium proserpae*, *Phlebotium proserpae* and *Phlebotium proserpae*. Grass snake and toads have been reported, but were not seen during the survey.

Figure 6 (Form and Target notes)

A desk top survey prior to a site visit via aerial photography was used to identify access to habitats and provide an indication of the habitat likely to be found. Using the current HBA dataset (HBA 2008-9), areas could be highlighted for priority surveying and areas to look at in more detail, for example the areas of semi

improved grassland. The dataset commonly referred to as the HBA is the digitised copy of a modified Phase 1 habitat survey of Warwickshire, Coventry and Solihull. It is based on aerial photography taken in 1991 with further field surveying being carried out between 1996 and 2000, and originally digitised by 2001 and referred to as the HBA 2001. The latest version was updated in 2008-9 and is referred to as HBA 2008-9.

2.2 Survey Methodology

Phase 1 Survey technique

The Phase 1 habitat survey

The Phase 1 habitat survey

The phase 1 habitat survey is a well established, general purpose standard which has been devised to provide rapid mapping over wide areas of the British countryside. The methodology is set out in "Handbook for Phase 1 habitat survey: A technique for environmental audit" (Nature Conservancy Council 1990).

The classification system

The HBA primarily use a subset of the Phase 1 habitat survey system, with some modifications. This is largely a hierarchical system based both on plant communities and land use, and because of this there can be ambiguities. There are up to 4 hierarchical levels, the topmost level having 10 broad categories:

First (top) level

- A. Woodland and scrub**
- B. Grassland and marsh**
- C. Tall herb and fern**
- D. Heathland**
- E. Mire**
- F. Swamp, marginal and inundation**
- G. Open Water**
- H. Coastland**
- I. Rock exposure and waste**
- J. Miscellaneous**

Second level

Take the example of A, woodland and scrub. This is divided as follows:

- A1 Woodland
- A2 Scrub
- A3 Parkland/scattered trees
- A4 Recently felled woodland

Third level

Take the example of A1, woodland. This is divided as follows:

- A11 Broad-leaved woodland
- A12 Coniferous woodland
- A13 Mixed Woodland

4. Fourth (lowest) level

Take the example of A11, broad-leaved woodland. This is divided as follows:

A111 Broad-leaved semi-natural woodland

A112 Broad-leaved plantation woodland

Each of these habitat types has a name, alphanumeric code and mapping colour code associated with it. For example, broad-leaved semi-natural woodland is denoted by the alphanumeric code A111 and the map colour scheme of solid "Green", where "Green" is the approved colour in the Berol Verithin range of pencil crayons, colour VT31.

Phase 1 and the HBA

The HBA uses a sub-set of Phase 1 categories which have been found useful in Warwickshire. For example, category H (coastland) is omitted altogether for obvious reasons. Category A5 (Orchard (commercial)) has been added, although absent in phase 1. Additionally, category K (Unclassified) has been added to facilitate computerised record keeping.

To assess the ecological interest within the areas of survey, a Phase 1 Habitat Survey was conducted (JNCC, 1993) between 13th July 2009 and 13th August 2009. A total of 9 townships were surveyed with a total area of approximately 4,300 hectares. The habitat of each parcel was assessed and classified using Phase 1 habitat codes. The aim was to provide a record of habitats that are likely to be ecologically important.

Using the existing habitat information displayed on the 8 maps taken into the field (including linear features and target notes) the status of each feature was compared to the existing data. For example observing an arable field, it was first referenced on the OS map for the location and then checked against the HBA map. If a habitat had not changed since the last survey then an 'N' was marked on the form against the specific polygon reference marked on the blank annotation map (e.g. field no. 31 on the map, 31 on the form with an 'N' for no change). If the habitat had changed then a specific habitat code was marked against it (e.g. field no. 31 on the map, 31 on the form with B4 for Improved grassland). This process was then repeated for each polygon or linear feature until the entire area within the boundary had been surveyed.

Additional classifications

Set-aside

The Phase 1 habitat code J113 was created by the HBA project to fulfil a certain category referring to Set-aside. Set-aside is a term for land that farmers were not allowed to use for any agricultural purpose. It was introduced by the EEC as part of a package of reforms of the Common Agricultural Policy to prevent over production. In exchange for not planting crops on set-aside land, farmers were compensated for the loss of income that resulted from not being able to utilise the land productively. Many farmers chose to place their set-aside land in locations where it has the greatest benefit for wildlife, which allowed ecosystems to develop that were

sheltered from the farming alongside. Good examples of beneficial set-aside use include, strips alongside woodland, blocks adjoining watercourses and larger blocks between crops. In November 2008 set-aside was abolished completely through the CAP Health Check. In July 2009 Defra announced the decision to pursue an industry-led voluntary approach, known as the Campaign for the Farmed Environment, to recapture the environmental benefits of set-aside.

Due to the change in circumstances with set-aside, the HBA plans to review the classifications of many of the phase 1 habitats in the future. Therefore the code J113 for set-aside is present within this report, however it has been used where land is deemed post agricultural or land that has not been used for agriculture for a significant duration of time so that it now resembles a more natural habitat.

For further detailing of the Phase 1 habitat survey techniques or for classification of habitat types please visit the Joint Nature Conservation Committee website.
<http://www.jncc.gov.uk>

2.3 Desk Top Analysis

Digitisation

The survey data was then digitised onto GIS (Geographical Information System) via MapInfo©. Data had originally been captured using the old Ordnance Survey (OS) Land-Line system. Modern survey techniques have exposed extensive errors in this data set, typically positional discrepancies of up to several metres. Therefore any datasets (such as the HBA) captured using this will need to be corrected. The OS has instituted a programme of positional accuracy improvement (PAI) to allow users to correct their datasets, using software provided by third-parties. Cadcorp Positional Accuracy Manager was chosen to perform these corrections.

Once the data had been digitised the habitats could be visually analysed per area within each township. Each of the nine settlements were split into sections and named by geographical area. This was to enable a more focused analysis and conclusion per settlement and to accurately highlight areas of high biodiversity value. Each settlement section was then analysed looking at its biodiversity value and potential, connectivity and linkage, LBAP habitats and proximity to potential Local Wildlife Sites/pSINCs and designated Local Wildlife Sites/SINCs.

Where new survey data was not obtained due to issues with physical access aerial photography has been used where possible in conjunction with the previous survey records.

Additionally, geological summaries were sought from the Warwickshire Museum, together with notes on existing Local Geological Sites and recommendations for potential geoconservation schemes.

Target Notes

Within the report for each settlement area, a list of key target notes has been listed. These target notes have been selected based on their ecological significance and relevance to the site analysis. The complete target note data set for each area is fully detailed in the appendix as they appear within the HBA data set. Therefore any target note that is referenced on the map but not referenced within the report text can be found in full in the appendix. The key target notes have been listed in alphabetical and numerical order. The target notes are as recorded by the individual surveyor in the field. The target notes have not been significantly altered for this report (only Latin names changed for common names) i.e. the observations are subjective and are subject to surveyor error or skill level.

Protected Species

The Warwickshire Biological Records Centre (WBRC) was commissioned to search for records of protected species for each of the nine settlements. This includes records of species within each settlement area, and also records of species which have been recorded just outside of the area boundary, which are likely to commute into the area. Species records include all protected species and a number of species which although are not protected by law, are of national conservation concern and are listed on the UK Biodiversity Action Plan (UKBAP), or of local

importance and are listed on the Warwickshire Coventry and Solihull Local BAP (LBAP).

The species records are described within each settlement section of the report and the accompanying illustrated in maps can be found within the Appendix. Species records within a suitable surrounding buffer zone outside of each settlement have also been described in the text, to take into account their likely movement outside of the settlement area. Please note that a lack of records does not mean that the species are not present within the area, only that they have not yet been recorded. It should be noted that the lack of details on specific groups (e.g. invertebrates) does not mean that sites are not valuable for them, only that records are not available in GIS format at present.

There are various levels of protection afforded to species in Warwickshire. The highest level of protection is under the EC Habitats Directive which is transposed into national law by the Conservation of Habitats and Species Regulations 2010. European Protected Species which are found in Warwickshire are all bat species, great crested newt, otter and dormouse. There are records of all of these species within the areas covered by the report apart from dormouse. These are listed under Schedule 2, making it an offence to capture, kill, disturb or trade these species or to recklessly damage or destroy the breeding site or resting place of such an animal. White-clawed crayfish are protected by the same Directive through the declaration of a Special Area of Conservation (SAC). At a national level, species which are fully protected under Section 9 (part 1) of the Wildlife and Countryside Act 1981 (WCA) are adder, grass snake, slow worm and common lizard, making it an offence to intentionally or recklessly kill, injure or sell any of these species. Adder and great crested newt are also LBAP species. Other amphibians found in Warwickshire are common frog, common toad and smooth newt which are afforded less protection under Section 9 (part 5) of the WCA, against sale only. Water voles and their burrows (place of rest) are fully protected under the WCA. Water voles are also a UK and Local BAP species. The barn owl is listed under Schedule 1 of the WCA. This means that the birds, their young, nests and eggs are fully protected at all times in the UK. Barn owl is also an LBAP species.

Brown hare are of high conservation concern and are UK BAP species. A number of butterflies which are priority UK BAP species are found in Stratford district, in addition to locally important LBAP species the Small Blue and the Dingy Skipper. Veteran trees are an important and irreplaceable biodiversity resource therefore it is important that they are not harmed by development. The black poplar is a Local BAP species for Warwickshire. There are records of plant species considered rare for Warwickshire, Coventry and Solihull, with some species carrying additional rarity status at the National level. Badgers and their setts are protected under the 1992 Protection of Badgers Act. Please note that due to confidentiality, badger records have not been included on the maps however have been noted in the text.

Recommendations

Recommendations for further surveys have been suggested as well as suggested mitigation and protection. Any buffer zones put in place for trees and woodlands are

primarily for the protection of the habitat however this is also a protection for Health & Safety reasons. Buffer zones will vary depending on the quality of the habitat, the sensitivity to disturbance or pollution and whether the habitat supports any protected species.

Buffer Zones

Woodlands

Woodlands have been given a recommended buffer zone of either 100 metres or 50 metres. 100 metre buffer zones have been suggested where a woodland or plantation is of significant size, location or high potential ecological value. The larger buffer zone is to ensure the protection of the most important woodland sites. A 50 metre buffer zone has been recommended when a woodland or plantation is of lower potential ecological value and/or is an isolated or fragmented site.

Water-bodies

Buffer zones for ponds are dependent on the results of amphibian surveys and/or hydrology surveys. For any watercourse that is not currently part of a Linear LWS/SINC then a recommended 10metre buffer zone should be implemented.

Grasslands

A recommended buffer zone of 50metre should be implemented for grassland habitats that after further phase 2 surveys are found to be of significant ecological value.

Dismantled Railways

It is proposed that a minimum buffer zone consisting of half the total width of the disused railway, which includes the tree line or linear scrub, be implemented either side of the boundary. This may need to be re-evaluated on a site by site basis depending on the results of further surveys.

Local Sites

Local Wildlife Sites

All Local Wildlife Sites and potential Local Wildlife Sites have been illustrated on a map for each settlement. Local Wildlife Sites (LWSs) are defined areas identified and selected locally for their substantive nature conservation value. Their selection takes into consideration the most important, distinctive and threatened species and habitats within a national, regional and local context (The Wildlife Trusts, 2005). Sites referred to as Local Wildlife Sites are habitats or groups of habitats that have been designated based on their county importance which takes into account size, ecological and geological position, rarity, naturalness, fragility, diversity, availability for leisure or education and aesthetics. Previously these sites were referred to as Sites of Importance for Nature Conservation (SINCs) and the HBA is now in the process of transferring names using LWS instead of SINC hence these sites being referred to as LWS/SINC.

Sites were preliminarily identified as 'potential' Local Wildlife Sites (pLWS/SINC) during the original Phase 1 survey of the Warwickshire, Coventry and Solihull region, which was first published in 2000. A potential Local Wildlife Site was selected based on the surveyor's judgement as to the ecological value of the site. The site is then surveyed by a Wildlife Site Surveyor using the specific Local Wildlife Site criteria. A survey report is then discussed by a select panel of experts and representatives to determine whether the site qualifies to be designated fully as a Local Wildlife Site (LWS/SINC). Therefore all potential Local Wildlife Sites (pLWS/SINCs) need to be surveyed using the specific criteria to be selected as an LWS, remain a pLWS or to remove the pLWS status and become an Ecosite. Each pLWS/SINC and LWS/SINC has an individual reference code (e.g. SP24K2) which is generated by the sites grid reference location (e.g. SP24K) and a unique number (e.g. 2). These codes are similar to the target note codes (e.g. SP24k2) however target notes are always located on the map with a corresponding symbol and lower case letters. It is recommended that all LWS/SINCs are given a 50metre buffer zone, however the presence of certain protected species may require this buffer zone to be extended to comply with recommended specific species/habitat buffer zones.

Local Geological Sites/RIGS

In order for a site to be selected as a Local Geological Site (LGS, formerly known as RIGS – Regionally Important Geological/geomorphological Sites), it must contain geological or geomorphological features of substantive value. The purpose of selection is to provide recognition of this value and to help conserve those features by affording the sites an appropriate degree of protection. Sites are selected as Local Geological Sites if they satisfy at least one of the four nationally agreed site selection criteria:

1. The value of a site for educational purposes in life-long learning
2. The value of a site for study by both professional and amateur Earth scientists
3. The historical value of a site in terms of important advances in Earth science knowledge, events or human exploitation
4. The aesthetic value of a site in the landscape, particularly in relation to promoting public awareness and appreciation of Earth sciences

From 2010 onwards, all sites that meet one of the criteria are selected, in accordance with the Defra guidance (*Local sites - Guidance on their Identification, Selection and Management, 2006*).

Sites can be de-selected if their interest feature deteriorates or if circumstances change to such an extent that they no longer satisfy any of the criteria.

There are currently nearly one hundred Local Geological Sites in Warwickshire, twenty-eight of which are within Stratford on Avon District.

SSSIs and LNRs

England's SSSIs hold some of our rarest and most threatened wildlife and geology. They include unique features for which England holds a large proportion of the world total, such as our peat bogs, maritime heathlands and limestone pavements. As well as their obvious value for wildlife and geology, SSSIs provide many benefits to individual people and society as a whole (Natural England).

Natural England has a duty to notify SSSIs when it is of the opinion that an area of land is of special interest by reason of its flora, fauna or geological or physiographical features. This opinion is based on the exercise of specialist judgement which is informed by scientific guidelines. SSSI's are legally protected under the Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way (CROW) Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006 (Natural England).

All district and county councils have powers to acquire, declare and manage LNRs. To qualify for LNR status, a site must be of importance for wildlife, geology, education or public enjoyment. Some are also nationally important Sites of Special Scientific Interest. Local Nature Reserve (or LNR) is a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949, and amended by Schedule 11 of the Natural Environment and Rural Communities Act 2006, by principal local authorities.

Watercourses

It should be noted that a specific set of criteria has been developed by the HBA Wildlife Sites Partnership Linear Sites Group for linear pLWS/SINCs that are watercourses (*criteria for canals under development presently*). This set of criteria is currently being applied to a series of primary, secondary and tertiary rivers (2010). Initial tests against survey data suggest that these criteria identify the key elements required, and that pLWS/SINC watercourses are likely to meet the criteria and be approved as LWS/SINC sites. The boundary of a LWS/SINC watercourse includes the flow of water and both bank-sides and may include a specific feature such as an ox-bow lake. As a result of the boundary definitions of a River LWS/SINC associated river features such as flood plain meadows or wet woodlands will become separate pLWS/SINCs that will require surveying against the LWS non-linear habitat criteria. As with all LWS/SINCs a minimum of 50 metre buffer zone is recommended for linear LWS/SINCs.

Based on these series of evaluations and analysis each area within each settlement has been given recommendations for further survey and which areas to avoid and which to buffer accordingly.

3.0 Site Assessment

3.1 Stratford upon Avon

3.1.1 Tiddington

Area: 158.7 hectares

Key Features

Semi-improved and poor semi-improved grassland
Plantation woodland
Hedgerows
Allotments
Golf course

Key Target Notes

TN# SP25h4 Fenced area of semi-improved grassland with frequent false oat-grass, cocksfoot, Yorkshire fog and rough meadow-grass and occasional creeping bent and red fescue. Forbs are limited to frequent ribwort plantain, creeping cinquefoil, yarrow and occasional mallow, broad-leaved dock and field bindweed.

TN# SP25h5 Area of semi-improved grassland with frequent false oat-grass, cocksfoot, Yorkshire fog and rough meadow-grass and occasional creeping bent and red fescue. Forbs are limited to frequent ribwort plantain, creeping cinquefoil, yarrow and occasional mallow, broad-leaved dock and field bindweed.

TN# SP25h6 Neglected area to the rear of a dilapidated farm building. Contains a mosaic of dense bramble, nettle and cocksfoot dominated grassland.

Habitat Description

This area has a large proportion of arable land in the east and north with some smaller areas of good quality grassland scattered in the north alongside sections of allotment. The entire western section is comprised of a golf course which consists of amenity grassland and fragmented sections of plantation. The habitats found within the golf course are generally very low in biodiversity value due to un-sympathetic management and isolation, however further surveys will be needed to ascertain the biodiversity value of this golf course. The semi-improved grasslands, poor semi-improved grassland and the hedgerows are the most ecologically significant areas within Tiddington.

Geological Description

This area is dominated by an outcrop of Quaternary River Terrace sand and gravel and alluvium, lying on Triassic Mercia Mudstone. Further details are available on the British Geological Survey's Stratford-upon-Avon Solid and Drift map (IGS 1974). There are no Local Geological Sites within this area. There is considerable potential for geological recording and establishment of new site records for Warwickshire

Museum's Geological Localities Record Centre, from temporary excavations within this area.

Protected Species

There are records of bat (noctule and pipistrelle *sp.*) and barn owl within the area, plus other species of note including black poplar and the county rare plant and Nationally Vulnerable plant Cat-mint (*Nepeta cataria*). Badger has been recorded in the vicinity along with various bat species, grass snake, smooth newt and slow worm in the vicinity.

Recommendations for Further Survey

The sections of semi-improved and poor semi-improved grassland (1, 2 & 3) should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites. A reptile and an invertebrate survey should be completed within these grasslands due to the presence of existing reptile records nearby.

A botanical survey will be required for the sections of mixed plantation (4) and the broad-leaved and mixed plantations within the golf course (5) between May – June, to determine the full biodiversity value of these habitats.

A further botanical survey is recommended for the golf course (5). Although the large proportion of golf courses have a low biodiversity value, some areas including any areas of rough grassland or the plantations can be more rich and therefore of greater value for wildlife.

Further surveys for identified protected species of bat, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The areas of semi-improved and poor semi-improved grassland (1, 2 & 3) should be retained and buffered to prevent impact from run off and changes to hydrology affecting the sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The sections of mixed plantation that occur within the golf course have a limited biodiversity value due to their fragmented locations. Further surveys of these areas of plantation should determine whether they are of significant wildlife value to warrant protection.

The sections of allotments are important green spaces that attract a range of wildlife for foraging needs and should therefore be protected from development.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development/excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of representative geological samples for Warwickshire Museum's collection and (c) assessment of any new geological exposures within the criteria of the LGS framework.

Conclusion

The area named 'Tiddington', part of Stratford upon Avon, has a large proportion of low biodiversity areas including the large expanse of arable land and potentially the golf course. The areas that are most valuable are the semi-improved and poor semi-improved grasslands, the allotments and potentially some of the areas of plantation within the golf course. Any development within this section should avoid the areas of semi-improved and poor semi-improved grassland. The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhanced before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.1.2 Alveston Hill

Area: 105.5 hectares

Key Features

Mixed Plantation

Poor semi-improved grassland (adjacent to boundary)

Semi-improved grassland verge

Ponds

Intact hedgerows

Key Target Notes

TN# SP25b18 Species rich bank which includes abundant yarrow, lesser knapweed, bush and common vetch, ribwort plantain, lesser trefoil, zig-zag clover, meadow and creeping buttercup and germander speedwell.

TN# SP25g3 Mixed plantation of fir, cedar, pine, poplar, horse chestnut and beech. The canopy is quite dense allowing only a patchy understorey of introduced shrubs such as rhododendron and snowberry.

TN# SP25h1 Young mixed plantation of fir, western red cedar, pine, larch, horse chestnut and beech with little or no ground flora beneath.

Habitat Description

This area is predominantly arable with a few areas of improved grassland resulting in the area having a low biodiversity value overall. There are a good number of intact hedgerows that are ecologically significant. The section of mixed plantation (6) within the centre of the area is valuable for wildlife for foraging, nesting and roosting. The road verge along the southern boundary of the area (5) is ecologically significant. There is a section of poor semi-improved grassland just outside the boundary of the area (4) that has a significant biodiversity value and will need further investigation. There are three ponds (1, 2 & 3) within this area that provide an important habitat for wildlife and have the potential to support protected species.

Geological Description

Alveston Hill is dominated by river terrace deposits and alluvium, lying on a surface of Triassic Mercia Mudstone bedrock. Further details are available on the British Geological Survey's Stratford-upon-Avon Solid and Drift map (IGS 1974). There are no Local Geological Sites within this area. There would be clear potential for geological recording and establishment of new records, through generation of temporary geological exposures within this area.

Protected Species

There is a barn owl record within the area. Other species of note include records of brown hare and the county rare plant and Nationally Vulnerable plant Cat-mint (*Nepeta cataria*). Badger has been recorded in the vicinity along with several species of bat, great crested newt, smooth newt, slow worm, grass snake and common toad.

Recommendations for Further Survey

A botanical survey will be required for the section of mixed plantation (6) between May – June, to determine the full biodiversity value of this habitat.

The section of poor semi-improved grassland (4) that is just outside the boundary and the road verge (5) should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites.

The ponds within this area (1, 2 & 3) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of the ponds will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

Further surveys for identified protected species of bat, amphibians, reptiles, invertebrates, badger and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The sections of mixed plantation are of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the sites. This is to prevent damage to the site from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the plantation, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

The area of poor semi-improved grassland outside the boundary (4) and the road verge (5) should be retained and buffered to prevent impact from run off and

changes to hydrology affecting the sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development/excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'Alveston Hill', part of Stratford upon Avon, has a large proportion of low biodiversity areas. The areas that have the most wildlife value are the poor semi-improved grassland and the road verge, the mixed plantation and the ponds. Any development within this section should avoid the plantation, ponds and buffer sufficiently for the grassland outside the boundary and the road verge. The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained. The value of connectivity for wildlife provided by the network of hedgerows through the area is likely to be significant and needs to be assessed. Some of the hedgerows are ecologically important.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape

3.1.3 Bridgetown

Area: 113.5 hectares

Key Features

Dismantled railway with semi-improved grassland (Linear pLWS/SINC SP25Li29b)

Semi-improved and poor semi-improved grassland

Several ponds

Brook

Mixed and broad-leaved plantation

Multiple hedgerows

Key Target Notes

TN# SP25b3 Dismantled railway with frequent hawthorn and elder scrub with occasional blackthorn, field maple and travellers joy over rough meadow-grass, cocksfoot and locally frequent red fescue and false oat-grass. Forbs include ribwort plantain, self-heal and occasional perforate St Johns wort, red bartsia, centaury and weld.

TN# SP25b4 Gappy hedge dominated by coppiced and pollarded willow with occasional hawthorn, elder, blackthorn and poplar. Willow and hawthorn along brook. Grassy margins with good species diversity and emergent species including amphibious bistort, water figwort, soft rush and greater bulrush.

TN# SP25b5 Rough semi-improved grassland with scattered hawthorn scrub and dominated by false oat-grass, cocksfoot with occasional Yorkshire fog and red fescue. There is scattered bramble and dog rose with frequent ribwort plantain, creeping cinquefoil and yarrow and occasional horse radish, mugwort, white campion, cow parsley, hogweed, tansy and nettle.

TN# SP25b16 Rabbit grazed semi-improved grassland along the route of a dismantled railway line. Contains abundant smooth meadow-grass, ribwort plantain, common bent, creeping cinquefoil with yarrow, red clover, common vetch, white dead nettle, ground ivy, lesser knapweed, cow parsley and birds foot trefoil. The line passes through a shallow cutting flanked by hawthorn with blackthorn, bramble, dog rose, willow, elder and locally abundant ash. Nettle become locally dominant here although the north facing bank include locally abundant cowslip and false brome.

TN# SP25b17 Out grown hedge along a wet ditch containing hawthorn, crab apple, blackthorn, field maple, dog rose with mature oak, ash and willow.

TN# SP25b18 (Just outside area) Species rich bank which includes abundant yarrow, lesser knapweed, bush and common vetch, ribwort plantain, lesser trefoil, zig-zag clover, meadow and creeping buttercup and germander speedwell.

Habitat Description

This area is a mix of arable and improved grassland, which are of low biodiversity value however there are numerous areas of higher biodiversity value including semi-improved and poor semi-improved grassland, ponds, a small brook and plantation woodland. The areas of semi-improved and poor semi-improved grasslands are an important habitat type that is decreasing within the county. There is a moderate sized area of mixed and broad-leaved plantation that provides nesting, roosting and

foraging opportunities for wildlife. The most significant feature within this area is the dismantled railway (linear pLWS/SINC) that has good species diversity with some interesting grassland plant species. This linear feature is an important green corridor for many species and enhances the biodiversity of the urban areas by linking it with the surrounding green landscape. The brook that follows the hedgerows is also an important linear feature creating good connectivity throughout this area which is enhanced due to the presence of the associated hedgerows. There are a total of eight ponds with a good level of connectivity which increases the overall value of the ponds within the area. These ponds provide valuable habitat for a range of wildlife and have the potential to support protected species. The relatively new road within this area (road not identified on previous Phase 1 survey) has a rich grassland road verge that will need further investigation.

Geological Description

Alveston Hill is dominated by an river terrace deposits and alluvium, resting on a surface of Triassic Mercia Mudstone bedrock. Further details are available on the British Geological Survey's Stratford-upon-Avon Solid and Drift map (IGS 1974). There are no Local Geological Sites. There would be potential for geological recording and establishment of new records in temporary excavations within this area.

Protected Species

There are several protected species records in the area including bat, great crested newt, smooth newt, common frog, common toad and grass snake. UK Biodiversity Action Plan butterfly species White Admiral and Small Heath have also been recorded within the area. Badger has been recorded in the vicinity along with various other species of bat, barn owl and slow-worm.

Recommendations for Further Survey

The Linear pLWS/SINC Dismantled Railway SP25Li29b (17) will need to be subjected to the Local Wildlife Site Criteria via a full botanical survey.

A botanical survey will be required for the sections of plantation (1, 2, & 3) between May – June, to determine the full biodiversity value of these habitats.

Further surveys for identified protected species of bat, amphibians, reptiles, invertebrates and badger will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

The ponds within the area (9, 10, 11, 12, 13, 14, 15 & 16) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of the ponds

will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

The sections of semi-improved and poor semi-improved grassland (4, 5, 6, 7, 8 & 18) should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites. A reptile and an invertebrate survey should be completed within these grasslands due to the presence of existing reptile records nearby.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The sections of plantation are of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the sites. This is to prevent damage to the site from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the plantation, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

The areas of semi-improved and poor semi-improved grassland should be retained and buffered to prevent impact from run off and changes to hydrology affecting the sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within the area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should

be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development/excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'Bridgetown', part of Stratford upon Avon, has numerous areas of ecological significance such as the dismantled railway, semi-improved and poor semi-improved grassland, a small brook, road verge, multiple ponds and plantation woodland. Any development within this section should avoid the areas of rich grassland and buffer sufficiently for the dismantled railway, brook, ponds and plantation. The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.1.4 Racecourse & River Avon South

Area: 136.8 hectares

Key Features

Linear LWS/SINC River Avon SP15Li8w
LWS/SINC Steeplechase Meadow SP15W1
pLWS/SINC Avon Meadow SSSI SP15W3
pLWS/SINC Seven Meadows & Stratford Steeplechase Meadow SP15W1
pLWS/SINC Riparian Wood SP15W2
Linear pLWS/SINC The Greenway/Dismantled Railway SP15Li27w
Semi-improved and poor semi-improved grassland
Hedgerows

Key Target Notes

TN# SP25b2 (just outside area boundary) Poor semi-improved cattle grazed meadow over ridge and furrow, dominated by crested dog's-tail and smooth meadow-grass with occasional cocksfoot, red fescue and meadow barley. Forbs are scarce but include occasional sorrel, great and ribwort plantain and autumn hawkbit.

TN# SP25b7 Strip of semi-improved grassland along a narrow south facing slope with frequent creeping and spear thistle, creeping cinquefoil, meadow buttercup and occasional red clover. Grasses include frequent smooth meadow-grass, rough meadow-grass, cocksfoot, red fescue and occasional common bent and crested dog's-tail. Surveyed 19/10/1998. Resurveyed 22/07/2009. No change. Species similar to that in field to north in sp25b6, but forbs are more frequent and also include self-heal and greater bird's-foot trefoil.

TN# SP25b9 Semi-improved grassland with frequent creeping and spear thistle, creeping cinquefoil, meadow buttercup and occasional red clover and woolly thistle. Grasses include frequent smooth meadow-grass, rough meadow-grass, cocksfoot, red fescue and occasional common bent and crested dog's-tail. Creeping cinquefoil, thistle, creeping buttercup, nettle, white clover.

TN# SP15w1 Seven Meadows. Stratford racecourse has a large area of amenity grass which occupies its eastern half. The western half which starts at a point level with the stands contains more varied habitats due to the presence of defunct hedges and a small spring which emerges. The spring has garlic mustard and nettles abundant along its edges, while the hedges, which are of elm and hawthorn, have nettles, cow parsley and garlic mustard frequent with a few common mallow. There are longer grasses also found there with cocksfoot and fescue sp.

TN# SP15w2 (LWS/SINC) A series of fields separated from each other by linear scrub of hawthorn, with occasional gaps in it so the fields are connected. There is abundant rye-grass with frequent cocksfoot and Yorkshire fog, with occasional crested dog's-tail. Forbs present were frequent salad burnet, and occasional lady's bedstraw, black knapweed, smooth cats ear and creeping buttercup. A few examples of meadowsweet were present. Next to the hedge there was cow parsley, nettles and some bramble.

TN# SP15w3 (pLWS/SINC) Poor semi-improved field, with rye grass, cocksfoot, Yorkshire fog and meadow-grass sp. all recorded. There was common chickweed,

creeping and spear thistle and nettles occasional across the field. Re-sown with ryegrass. Just remnant patches of Yorkshire fog, false oat grass, meadow foxtail and meadow buttercup.

TN# SP15w8 The bank on the south of the river is steep and some 20m high with mature ash and oak, with hawthorn and alder present occasionally. The ground flora of the bank contains nettles and garlic mustard with occasional false brome and hairy brome. Talking with local residents ascertained that kingfishers nest here. The north bank is only 2-3m high and has no trees over it. The vegetation is dominated by cocksfoot with cow parsley, nettles hemlock and prickly lettuce.

TN# SP15w15 To the east of the crossing over the River Avon the disused railway is lined with ash standards below which is a mosaic of hawthorn, elder and bramble scrub, with burdock, nettle, common ragwort and creeping and spear thistle.

TN# SP15w28 2 sedge warblers singing, reed bunting, 3 kingfishers along river.

Habitat Description

This area is dominated by high biodiversity habitats including multiple areas of semi-improved and poor semi-improved grassland. This area contains one linear LWS/SINC (River Avon), one linear pLWS/SINCs (Dismantled Railway), three pLWS/SINCs (Riparian Wood, Seven Meadows & Stratford Steeplechase Meadow and Avon Meadow SSSI), one LWS/SINC (Steeplechase Meadow) and one SSSI (Racecourse Meadow SSSI). The grassland sites range in quality and would require further investigation to determine their full biodiversity value, however these habitats are increasingly rare in Warwickshire. The LWS/SINC Steeplechase Meadow SP15W1 is an area of neutral semi-improved grassland that retains several species associated with traditional flood meadows, including the significant pepper saxifrage *Silaum silaus*. The site is also particularly important in terms of its ecological position, being directly adjacent to Racecourse Meadow SSSI, a site of national importance. The LWS/SINC borders the SSSI on two sides, and therefore provides a buffer zone to the latter (D Cole, 2004). The River Avon that dissects the area at the eastern end is a rich linear feature that provides excellent connectivity to neighbouring habitats and has the potential to support protected species. The dismantled railway is another important linear feature that creates a green corridor for wildlife. The sections of woodland and scrub provide nesting, roosting and foraging opportunities for wildlife. There are only a minimal amount of lower biodiversity areas contained within the arable and the large expanse of amenity grassland in the north section.

Geological Description

The area is dominated by River Avon terrace deposits and alluvium, overlying Triassic Mercia Mudstone. The area includes the Stratford Racecourse Local Geological Site, selected for its exposures of mollusc-bearing Quaternary alluvium. Further details of the local geology are available on the British Geological Survey's Stratford-upon-Avon Solid and Drift map (IGS 1974). There would be potential for geological recording and establishment of new records in temporary excavations within this area.

Protected Species

Otter records are present along the River Avon and other protected species records within the area include grass snake, common frog and common toad. UK BAP butterfly records in the area include White-letter Hairstreak and county rare plants include common fumitory spp (*Fumaria officinalis* ssp *wirtgenii*), common calamint (*Clinopodium ascendens*) and Almond willow (*Salix triandra*) plus black poplar. There are a number of badger records within the vicinity along with several records of bat (pipistrelle, noctule, Natterer's Bat, Daubenton's Bat, Brown-Long Eared-Bat), barn owl, smooth newt and potentially water vole. Other county rare plants in the vicinity include Smith's Pepperwort, Fine-leaved Dropwort, Wild Clary, Henbane and Spear-Leaved Willowherb

Recommendations for Further Survey

The pLWS/SINCs Riparian Wood SP15W2 and Seven Meadows & Stratford Steeplechase Meadow SP15W1 will need to be surveyed against the LWS criteria between June and July.

The LWS/SINC Steeplechase Meadow SP15W1 was designated a Local Wildlife Site in 2004 and therefore should be resurveyed to ascertain its current value as a county important wildlife site.

The Linear LWS/SINC River Avon SP15Li8w has been assessed during 2010 using the specific River Linear Local Wildlife Site criteria and has been fully designated. The River Avon will need to be surveyed for water voles and otters, both desk top study for existing records and a site survey to establish current status.

The Greenway/Dismantled Railway SP15Li27w should be assessed using the specific Linear Local Wildlife Site criteria.

The semi-improved and poor semi-improved grassland that is not contained within the pLWS/SINCs (1, 2, 3, 4, 5, 6, 7 & 8), should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites. Although grassland site 8 is outside the area boundary, it is adjacent and would therefore need to be assessed to ascertain its fragility to any potential development. A reptile and an invertebrate survey should be completed within these grasslands due to the presence of existing reptile records in the area.

A botanical survey will be required for the sections of scrub and the strip of woodland (9 & 10) between May – June, to determine the full biodiversity value of these habitats.

Further surveys for identified protected species of bat, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds. It is recommended that a breeding bird survey is carried out in the high biodiversity areas of semi-improved grassland and along the River Avon, especially regarding kingfishers.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The outcome of the LWS surveys will determine the appropriate actions needed for the habitats involved within these sites. It is likely that the potential Local Wildlife Sites will qualify for designation and therefore these sites will need appropriate buffering to ensure the protection of these county important sites. The existing LWS/SINC Steeplechase Meadow SP15W1 should be retained and buffered considerably to protect this site's value as a county important wildlife site and to remain as a buffer for the Avon Meadow SSSI.

The River Avon (LWS/SINC) is an important linear feature and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. The River Avon is potential water vole and existing recorded otter habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles and the current presence of otters. The recommended buffer for otter positive watercourses is a minimum of 10 metres on each side. A management plan for the river should be written and implemented to ensure future good management and enhancement of the habitat.

The areas of semi-improved and poor semi-improved grassland (1, 2, 3, 4, 5, 6, 7 & 8)) should be retained and buffered to prevent impact from run off and changes to hydrology affecting these sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The small strip of woodland (9) is of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the site. This is to prevent damage to the site from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in

the woodland, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites. Quaternary river sediments are of special interest.

Conclusion

The area named 'Racecourse & River Avon South', part of Stratford upon Avon, has a large proportion of high biodiversity value areas. The Local Wildlife Site (Steeplechase Meadow SP15W1), the potential Local Wildlife Sites (Riparian Wood SP15W2 and Seven Meadows & Stratford Steeplechase Meadow SP15W1) the SSSI Avon Meadow and the numerous areas of semi-improved grassland should be protected from development. The linear LWS/SINC River Avon runs through the eastern section of this area and the dismantled railway/Greenway (linear pLWS/SINC) runs through the centre of this area and both are important linear features that should be protected and buffered from development. The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Due to the high proportion of biodiverse sites and the River Avon, this area is not recommended for significant development.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.1.5 West of Shottery

Area: 186.3 hectares

Key Features

LWS/SINC Bordon Hill Old Rifle Range SP15S1

pLWS/SINC The Triangle Hedgerow SP15S4

pLWS/SINC Drayton Brook and Hedges SP15S6

Linear pLWS/SINC Shottery Brook SP15X2 (Now part of Linear LWS River Avon)

Semi-improved and poor semi-improved grassland

Broad-leaved Plantation

Mixed plantation

Hedgerows

Key Target Notes

TN# SP15r21 Field viewed over fence. Rank grassland, appears to have been left unmanaged for some time. No longer unimproved grassland. Species poor but recommend survey in spring/summer. Teasel, creeping buttercup, creeping cinquefoil, bristly ox-tongue, creeping thistle, occasional hawthorn scrub, broadleaved dock.

TN# SP16s6 (just outside area boundary) Small meadow containing false oat-grass, common couch grass, fescue spp. and cocksfoot. Forbs include lady's bedstraw, bird's-foot-trefoil, spear thistle, yarrow, tor grass, clover and field bindweed.

TN# SP15s7 (pLWS/SINC) From SINC survey, this mature hedgerow was once laid but has been unmanaged for some time and has now become derelict. It is hawthorn dominant with frequent elder and occasional blackthorn, crab Apple, wild privet, and buckthorn. Field maple is rare. Ash standards are frequent along its length. There is occasional dead elm towards the north end. Associated with the hedgerow, is a ditch which becomes deeper to the north. A public footpath runs adjacent to the hedgerow. Also cultivated pear tree on west side. Public footpath runs through the hedgerow.

TN# SP15s20 (SINC) Open area surrounded by dense scrub, becoming colonised by hawthorn, rose, wild privet, way-faring tree and ash. The grasses are generally kept short, apparently by rabbits, but include tor grass, cocksfoot and Yorkshire fog. A variety of forbs is present including ragwort, agrimony, black knapweed, self-heal, black medick, red bartsia, fairy flax, upright hedge parsley, eyebright, perforate St John's-wort, tall melilot and wild carrot. Occurring less frequently are common centaury, yellow-wort, woolly thistle, creeping rest-harrow, dwarf thistle and common calamint.

TN# SP15s24 (just outside area boundary) Species rich hedge containing hawthorn, blackthorn, field maple, dog rose, elm, elder, and privet. Includes bramble, black bryony, wild plum and woody nightshade.

TN# SP15s26 Round-leaved fluellen and sharp-leaved fluellen both found at field boundary. Also wild parsnip, red bartsia, rough chervil, meadow vetchling in hedge line.

TN# SP15s28 Area of semi-improved neutral grassland with yellow-wort, common centaury, bird's-foot-trefoil, agrimony.

TN# SP15s29 Species rich hedgerow. Elm, hawthorn, bramble, elder, blackthorn.

TN# SP15s30 Very good quality meadow of semi-improved grassland, possibly cut and then grazed very early in the season. Germander speedwell, lady's bedstraw, agrimony, abundant meadow vetchling, abundant meadow buttercup, creeping thistle, hogweed, red clover, common mouse-ear, common sorrel, woolly thistle, creeping buttercup, creeping bent, dandelion, creeping cinquefoil.

TN# SP15x22 A poor semi-improved grassland area with few species present. There was abundant creeping bent, with occasional rye-grass, Yorkshire fog, cocksfoot, Timothy and wild oat. The forbs present were scattered and contained occasional common vetch, common field speedwell, common ragwort, rosebay willowherb and frequent red clover.

TN# SP15x25 (SINC) Track of semi-improved grassland with agrimony, meadow buttercup, yellow-wort, centaury. Gardens to South have similar spp.

Habitat Description

This area of Stratford upon Avon has a high level of biodiversity due to the high number of potentially county important sites and good quality grassland. The most ecologically significant section within this area of is the county important Local Wildlife Site Bordon Hill Old Rifle Range SP15S1 which has an abundance of biodiversity. This site contains a small area of grassland with a rich diversity of calcareous plant species and some notable invertebrate species (*Cryptocephalus frontalis* – Scarce beetle). Records for great crested newts, breeding lesser whitethroat and turtle dove also suggest the importance of this site (C. Cholerton & J. Easton, 2004).

There is a large expanse of arable land in the north east of this area that has little or no biodiversity interest. There are numerous areas of either semi-improved grassland or poor semi-improved grassland (1, 2, 3, 4, 5 & 6) that require further investigation. There is an area of mixed plantation (7) and a smaller area of broad leaved plantation (8) that are valuable to wildlife for foraging, nesting and roosting and require investigation. The hedgerows within this area are generally of good quality especially the hedgerows that are found as part of the pLWS/SINCs suggesting many original hedgerows are still surviving in this area of Stratford upon Avon. Shottery Brook SP15X2 runs along the eastern boundary of this area and is valuable as a green corridor for wildlife and has the potential to support protected species.

Geological Description

This area is characterised by an outcrop of Early Jurassic Blue Lias Formation strata, with patchy cover of Quaternary river deposits. Further details are available on the British Geological Survey's Stratford-upon-Avon Solid and Drift map (IGS 1974). No Local Geological Sites exist in this area. There would be potential for geological recording and establishment of new records in temporary excavations within this area.

Protected Species

There are records of bat (pipistrelle sp., common pipistrelle, noctule, Daubenton's Bat, Brown-Long Eared-Bat Natterer's Bat), barn owl, water vole, common frog and smooth newt within the area. UK BAP species brown hare has been recorded within the area. Badger has been recorded on the boundary of the area. Species recorded just outside of the area include otter, bats, common frog, smooth newt and great crested newt. Nearby county rare plants of Henbane, Cat-mint, Hounds Tongue, Knotted Clover, Common Broomrape and Smith's Pepperwort have been recorded.

Recommendations for Further Survey

The pLWS/SINC The Triangle Hedgerow SP15S4 and pLWS/SINC Drayton Brook and Hedges SP15S6 will need to be surveyed against the LWS criteria between June and July.

The LWS/SINC Bordon Hill Old Rifle Range SP15S1 was designated a Local Wildlife Site in 2004 and therefore should be resurveyed to ascertain its current value as a county important wildlife site. Previous management on the site suggests the level of botanical and invertebrate interest should remain similar to the survey in 2004.

The linear pLWS/SINC Shottery Brook SP15X2 is now included within the boundary of the Linear LWS River Avon. Shottery Brook will need to be surveyed for water voles, both desk top study for existing records and a site survey to establish current status.

The semi-improved and poor semi-improved grassland that is not contained within the pLWS/SINCs (1, 2, 3, 4, 5 & 6), should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites.

A botanical survey will be required for the sections of plantation (7 & 8) between May – June, to determine the full biodiversity value of these habitats.

Further surveys for identified protected species of bat, amphibians, reptiles, otter, hare, water vole and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and

Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The outcome of the LWS surveys will determine the appropriate actions needed for the habitats involved within these sites. It is likely that the potential Local Wildlife Sites will qualify for designation and therefore these sites will need retaining and appropriate buffering to ensure the protection of these county important sites. The existing LWS/SINC Bordon Hill Old Rifle Range SP15S1 should be retained and buffered considerably to protect the value of this county important wildlife site.

Shottery Brook (part of Linear LWS River Avon) is an important linear feature and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. Shottery Brook is potential water vole habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles. A management plan for the brook should be written and implemented to ensure future good management and enhancement of the habitat. It is likely that the brook may be frequented by otters due to the presence of existing otter records for the River Avon.

The areas of semi-improved and poor semi-improved grassland (1, 2, 3, 4, 5 & 6) should be retained and buffered to prevent impact from run off and changes to hydrology affecting the sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The small sections of woodland and the large area of mixed plantation (7 & 8) are of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the sites. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the woodland and plantation, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should

compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites. Exposures of the Blue Lias Formation would be of special interest, as details are poorly-known from this area.

Conclusion

The area named 'West of Shottery', part of Stratford upon Avon, has a number of areas with high biodiversity value resulting in only a few areas that should be considered for development. The existing Local Wildlife Site (Bordon Hill Old Rifle Range SP15S1) and the potential Local Wildlife Sites (The Triangle Hedgerow SP15S4 and Drayton Brook and Hedges SP15S6) and the areas of semi-improved and poor semi-improved grassland should be protected from development. Shottery Brook runs along the eastern boundary of this area and is an important linear feature that should be protected from development. The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.1.6 Shottery Fields

Area: 40.2 hectares

Key Features

pLWS/SINC Pond and Wood SP15X1

Linear pLWS/SINC Shottery Brook SP15X2 (now part of the Linear LWS River Avon)

Semi-improved and poor semi-improved grassland

Mixed woodland

Allotments

Key Target Notes

TN# SP15x1 Probable hay meadow, recently cut. Grasses visible include crested dog's-tail, false oat-grass, cocksfoot and common couch. There is occasional red clover. To the west, the ground slopes down to the road and the grass is uncut. Here there are false oat-grass, Timothy grass, yarrow, upright hedge parsley and creeping thistle.

TN# SP15x3 Recently cut meadow containing perennial rye-grass, Timothy grass, Yorkshire fog, cocksfoot and crested dog's-tail. Forbs include frequent buttercup, red clover, creeping thistle and dock, with rarer black knapweed, mugwort, ox-eye daisy and mouse-ear hawkweed.

TN# SP15x4 Field grazed by goats and containing tall grasses, including cocksfoot, perennial rye-grass, false oat-grass, common couch and Yorkshire fog. Nettle occurs occasionally.

TN# SP15x7 Fairly damp meadow sloping down to stream. Grasses include abundant Yorkshire fog and also cocksfoot, perennial rye-grass and rarer false oat-grass. Forbs include hogweed, creeping thistle and upright hedge parsley. An ancient crack willow occurs near the stream.

TN# SP15x11 Mature woodland containing sycamore, wellingtonia, large-leaved lime and horse chestnut. The understorey contains holly, yew, elder, elm and sycamore regeneration. The ground is covered by ivy and Oregon grape, butcher's broom, deadly nightshade, cuckoo pint, wood avens and nettle also occur. Bluebells are reported, but were not seen at time of survey. Fox, muntjac reported.

TN# SP15x13 Stretch of Shottery Brook. Water is murky and no aquatic vegetation is evident. The banks, which have been re-enforced, support rare nettle-leaved bellflower, hogweed, nettle, dog rose and hawthorn. One section is overhung by a mature horse chestnut. Moorhen and several ducks were present. Frequent nettle-leaved bellflower observed.

TN# SP15x20 A pond at the eastern end of woodland that contains dominant stands of common reed with frequent reed canary grass, lesser pond sedge and occasional common club rush and soft rush. Forb species include abundant water mint, water forget-me-nots and greater willow herb. There are also occasional patches of purple loosestrife and yellow iris. White water lilies are frequent within the pond itself. The hedgerow on the southern side of the pond contains blackthorn, hazel and alder buckthorn. Willow, beech and poplar standards surround the pond.

TN# SP15x21 (pLWS/SINC) Mixed plantation woodland with patches of tall ruderals towards the pond area. The ruderal species include abundant hedge bindweed with

occasional tansy, common comfrey and hogweed. Tree saplings are also present including the wayfaring tree, hazel and willow. Hemlock, cut leaved cranes-bill, self-heal and teasel are also present but are less frequently distributed. The woodland itself is predominantly ash with frequent horse chestnut and willow. The understorey comprises abundant wayfaring saplings with frequent elder, dogwood and hawthorn. The ground flora is composed of abundant nettles with frequent herb Robert, enchanter's nightshade and occasional burdock, lords and ladies and dock.

TN# SP15x26 Small allotments with lesser snapdragon and cornflower.

Habitat Description

This relatively smaller area has numerous habitat types with a large section of amenity grassland in the east which is of low biodiversity value. There is a significant proportion of semi-improved and poor semi-improved grassland which are both valuable wildlife habitats. There is a small section of mixed woodland that provides roosting, nesting and foraging habitat for wildlife that requires further investigation to identify the full biodiversity value. There is a pond and wood that is a pLWS/SINC (Pond and Wood SP15X1) within the area that will need further investigation and surveying against the LWS criteria. The small area of allotments although limited, provides foraging habitat for many species and is a valuable green space within the urban surroundings. A small number of rare plants were also found within the allotments. Shottery Brook dissects the western section, part of the Linear LWS River Avon, is an important habitat for connectivity to neighbouring habitats and has the potential to support protected species.

Geological Description

This area is characterised by an outcrop of Early Jurassic Blue Lias Formation strata, with patchy cover of Quaternary river deposits. Further details are available on the British Geological Survey's Stratford-upon-Avon Solid and Drift map (IGS 1974). There are currently no Local Geological Sites in this area. There would be potential for geological recording and establishment of new records in temporary excavations within this area.

Protected Species

There are records of great crested newt and common frog within the area. There are also records of black poplar and the county rare plant species Common Broomrape (*Orobranche minor*) within the area. Just outside the area is water vole record, smooth newt, pipistrelle sp. bat and the county rare plant of Knotted Clover.

Recommendations for Further Survey

The pLWS/SINC Pond and Wood SP15X1 (8) will need to be surveyed against the LWS criteria between May and June.

The semi-improved and poor semi-improved grasslands (1, 2, 3, 4, 5 & 6) should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites.

The Linear pLWS/SINC Shottery Brook SP15X2 should be assessed using the specific River Linear Local Wildlife Site criteria. Shottery Brook will need to be surveyed for water voles, both desk top study for existing records and a site survey to establish current status.

A botanical survey will be required for the section of mixed woodland (7) between May – June, to determine the full biodiversity value of this habitat.

Further surveys for identified protected species of bat, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

The pond within the pLWS/SINC Pond and Wood SP15X1 (8) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of the pond will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this area that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The outcome of the LWS surveys will determine the appropriate actions needed for the habitats involved within these sites. It is likely that the potential Local Wildlife Sites will qualify for designation and therefore these sites will need appropriate buffering to ensure the protection of these county important sites.

The areas of semi-improved and poor semi-improved grassland (1, 2, 3, 4, 5 & 6) should be retained and buffered to prevent impact from run off and changes to hydrology affecting these sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

Shottery Brook (part of Linear LWS River Avon) is an important linear feature and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. Shottery Brook is potential water vole habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles. A management plan for the brook should be written and implemented to ensure future good management and enhancement of the habitat. It is likely that the brook is frequented by otters due to the presence of existing otter records for the River Avon.

The section of mixed woodland is of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the site. This is to prevent damage to the site from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the woodland, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within the area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as LGS. Details of the Blue Lias Formation would be of special interest.

Conclusion

The area named 'Shottery Fields', part of Stratford upon Avon is a relatively small area with quite a lot of biodiversity interest. Any development within this section should avoid the areas of semi-improved grassland and the pLWS/SINC Pond and Wood and buffer sufficiently for Shottery Brook (pLWS/SINC). The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the woodland and which hedgerows should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.1.7 Bishopton

Area: 148 hectares

Key Features

pLWS/SINC Wildmoor SP15S5

pLWS/SINC Cadle Farm Pasture SP15S3 (just outside area boundary)

Linear pLWS/SINC Site Adjacent to Canal SP15Y1

Linear pLWS/SINC Stratford on Avon Canal SP15Li1t

Semi-improved grassland and rich grassland road verge

Ponds

Small sections of broad-leaved semi-natural woodland and areas of scrub

Hedgerows

Key Target Notes

TN# SP15s3 Field containing ridge and furrow and grazed by cattle. Grasses include wall barley, Yorkshire fog and Timothy. Creeping thistle is abundant, especially near the road, where underground work has been carried out. Agrimony, lady's bedstraw and ragwort occur next to the farm drive-way.

TN# SP15s10 (pLWS/SINC just outside of area boundary) Small strip of land above the A46 road embankment, dominated by tall grasses such as false oat grass. Spear and creeping thistle are frequent and ragwort is also present.

TN# SP15y11 Rough semi-improved grassland to the east of the tip site, dominated by perennial rye-grass and cocksfoot with Yorkshire fog and false-oat grass. There was abundant hemlock and common sorrel, and also black knapweed, common ragwort, creeping and spear thistle.

TN# SP15y12 Stratford on Avon canal. The towpath is on the east side of the canal. This is bordered on its east by a low hedge of hawthorn. The vegetation immediately adjacent to the canal had been recently cut and so it was not always possible to identify what was found. However that which was identified included skullcap, ribbed melilot, pale St John's wort, meadowsweet, colt's foot, silverweed, field horsetail, meadow vetchling, yellow flag, hard rush and false fox sedge and greater pond sedge. South of the A46 on the towpath edge wild angelica, gipsywort, trifid bur-marigold, water dock, amphibious bistort, water figwort, arrowhead and brooklime were found. The west side of the canal was in many places overhung with willow and ash trees, and at the waters edge had willow and alder saplings, and great and rosebay willowherb, meadowsweet, purple loosestrife.

TN# SP15y21 Plantation of silver birch and hazel, with some mature oak and ash standards. At the south edge of the site there are a few sycamore. Ground flora is poor, with the edges having abundant bittersweet, while further into the woods it is dominated by ivy and nettles.

TN# SP15y22 Thin strip between road and hedge. Spurrey (sand?), bee orchid, black knapweed, musk mallow.

TN# SP15y23 Narrow corridor through industrial estate along small stream, with a mix of habitat from willow carr, common red beds to tall ruderal. Common knapweed, gipsywort, musk mallow, and common centaurry noted.

Habitat Description

This area of Stratford upon Avon has numerous areas of high biodiversity interest interspersed between a large amount of arable, improved grassland and built up areas. The area is dissected by the Linear pLWS/SINC Stratford on Avon Canal SP15Li1t and two roads that run parallel to each other. Bishopton Lane has a pLWS/SINC road verge that will need to be surveyed against the LWS criteria and the Stratford by-pass has a section of road verge that is species rich with bee orchids that will need further investigation. There are a couple of semi-improved grasslands, part of which is part of a pLWS/SINC Wildmoor SP15S5 and another area of grassland part of a pLWS/SINC Cadle Farm Pasture SP15S3 that is found just outside the area boundary in the south east. There are a few small sections of broad-leaved semi-natural woodland, plantation and scrub that are valuable for nesting, foraging and roosting for many species and will need further investigation. A number of ponds are also found within this area that are important for wildlife and have the potential to support protected species. There is a large expanse of tall ruderal habitat in the north of this area that will need further investigation to determine its importance to wildlife in this area. A significant number of the hedgerows were found to be intact and therefore are an important feature within the arable sections of this area.

Geological Description

This area's geological outcrop is characterised by Triassic Mercia Mudstone Group and Early Jurassic Blue Lias Formation strata. Further details are available on the British Geological Survey's Stratford-upon-Avon Solid and Drift map (IGS 1974). There are no recorded Local Geological Sites in this area. There would be potential for geological recording and establishment of new records in temporary excavations within this area.

Protected Species

Protected bat species have been recorded within the area including common pipistrelle, soprano pipistrelle and noctule, smooth newt and common frog. There are also records of UK BAP butterfly Small Heath and White-letter Hairstreak and county rare plant species of Cornflower (*Centaurea cyanus*) and Fritillary (*Fritillaria meadensis*) within the area. Fritillary holds a status of Nationally Vulnerable and not native to Warwickshire. There are badger records within the area. Just outside of the boundary are further bat records (including common and soprano pipistrelle, brown long-eared bat, noctule, Whiskered/Brandt's bat) and barn owl.

Recommendations for Further Survey

The pLWS/SINC Wildmoor SP15S5 and pLWS/SINC Cadle Farm Pasture SP15S3 will need to be surveyed against the LWS criteria between June and July.

The semi-improved and poor semi-improved grassland that is not contained within the pLWS/SINCs (1, 2, 3 & 4), should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites. The large expanse of tall ruderal (9) should also be subjected to a more intense botanical survey than

Phase 1 to determine the quality of this habitat. A reptile and an invertebrate survey should be completed within these grasslands and tall ruderal areas.

A botanical survey will be required for the sections of woodland, plantation and scrub (5, 6, 7 & 8) in April – June, to determine the full biodiversity value of these habitats.

Further surveys for identified protected species of bat, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value to identify any mature and important trees within the hedgerows.

The ponds (10, 11, 12 & 13) within this area will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of these water-bodies will also need to be undertaken to ensure any development will not have any adverse affect on the water levels or water.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The outcome of the LWS surveys will determine the appropriate actions needed for the habitats involved within these sites. It is likely that the potential Local Wildlife Sites will qualify for designation and therefore these sites will need appropriate buffering to ensure the protection of these county important sites.

The areas of semi-improved grassland (1, 2, 3 & 4) should be retained and buffered to prevent impact from run off and changes to hydrology affecting the site. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The small sections of woodland, plantation and scrub (5, 6, 7 & 8) are of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the sites. This is to prevent

damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the plantation, woodland and scrub, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Avon Valley Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

It is important that the connective value of the canal is retained by ensuring the tow path is managed sympathetically for biodiversity.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'Bishopton', part of Stratford upon Avon, has a number of areas with high biodiversity value resulting in only a few areas that should be considered for development. The potential Local Wildlife Sites (Wildmoor SP15S5 and pLWS/SINC Cadle Farm Pasture SP15S3) and the numerous areas of semi-improved grassland should be protected from development. The important linear features within this area (Stratford on Avon Canal and Bishopton Road Verge) should be protected from development to ensure they retain connectivity with the surrounding rural landscape. The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

Further surveys for identified protected species of bat, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the

presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

3.1.8 Welcombe

Area: 141.7 hectares

Key Features

pLWS/SINC Wood SP15Y3

pLWS/SINC Welcombe Estate SP25D1

Welcombe Hills LNR

Water-bodies

Species rich semi-improved and poor semi-improved grassland

Broad-leaved semi-natural woodland

Plantation

Species rich grassland road verge

Multiple lines of trees

Key Target Notes

TN# SP25d4 Ash woodland, originating as 19th century plantation. Ash are now scattered and supports much dead wood. The understorey contains hawthorn, wild privet, elder, dog rose, blackthorn, English elm to the south, and occasional young sycamore, field maple and wayfaring tree. The ground flora includes abundant bramble, ivy, violet spp., ground ivy and hairy brome with false brome, wood avens, hedge woundwort, burdock and nettle. Bracket fungi are frequent on dead wood.

TN# SP25d5 Closely grazed grassland (cattle and rabbits) with areas of hawthorn scrub. Slopes are the most species-rich with crested dog's-tail, perennial rye-grass and common bent abundant with sweet vernal grass, yellow oat-grass, Yorkshire fog, Cocksfoot, smaller cats-tail and rough meadow grass. Forbs, with high cover in places, include abundant self-heal, black medick, ribwort plantain, cats-ear, daisy and birdsfoot trefoil with frequent glaucous sedge, yarrow, agrimony, knapweed, bulbous and meadow buttercup, rough hawkbit, white and red clover and creeping cinquefoil. Lady's bedstraw is occasional especially on anthills and woolly thistle, Tor-grass and meadow barley present towards the more calcareous area to the north. Stands of creeping thistle occur in places and here the sward is ranker and less species-rich with abundant Yorkshire fog and common sorrel. Quaking grass was also recorded in 1993.

Resurveyed 22/07/2009. Area less species rich, and is ungrazed by cattle. Also contains stands of dense scrub.

TN# SP25d9 Open ash, oak, horse chestnut and common lime woodland, originating as 19th century plantation, grading down slope into mature hawthorn scrub with occasional elder and English elm. Beneath the trees the ground flora contains grassland species, though it is less species-rich than the grassland elsewhere. Cattle have access and much of the ground beneath the scrub is bare. Nettle, ground ivy, wood avens, violet spp., wood dock and burdock are present in places.

TN# SP25d11 Ash woodland with scattered horse chestnut, beech, common lime and hornbeam which were planted between 170 and 100 years ago. Dense thickets of hawthorn, dog rose, elder and bramble contain much young ash, occasional field maple and sycamore and hornbeam. Cattle have access and prevent regeneration elsewhere and there are signs of mountain/scrambler bike damage. Three small

fenced enclosures contain densely spaced mixed broad-leaved species planted in the mid 1980s. Ground flora species include false brome, ground ivy, violet spp. and herb Robert.

TN# SP25d30 Poor semi-improved pasture, cattle grazed. Wooded clusters to the northern end of the fields and near the house. Also a very old, deep feature swimming pool, fenced and wooded with hawthorn, ash and sycamore. Grassland species include meadow buttercup, creeping cinquefoil, red clover, self-heal, sow-thistle, creeping thistle, nettle, greater plantain, common sorrel and bird's-foot trefoil.

TN# SP15y16 A very small area of semi-natural broad-leaf between arable fields. The canopy is quite open, with oak and ash standards. The understorey contains oak, ash, hawthorn and hazel, while the ground flora has abundant garlic mustard and nettles, with ivy and ground ivy, herb Robert and violet sp. This is a small area of neglected, semi-natural broadleaved woodland. The canopy has ash dominant with occasional oak and wych elm. horse chestnut and crack willow are rare. The understorey comprises abundant elder, especially at the north end where the canopy is less dense. Hawthorn and English elm are frequent. The elm is small and in various stages of decline. Wild privet is occasional with field maple and blackthorn rare. The ground flora is dominated by nettles at the north end in the more open area. At the south end where the canopy is more dense cleavers, ivy and ground ivy are abundant with frequent garlic mustard and locally abundant violet. There is rare spurge laurel. The western edge is fairly dense and hedge-like with abundant blackthorn and frequent English elm and hawthorn. There is occasional elder, wild privet and field maple and rare buckthorn. There is also a ditch running along this edge with frequent wood false-brome. There is occasional rough chervil and hedge woundwort and rare brooklime.

TN# SP15y20 No access possible. Viewed from the road this field contains false oat-grass, Yorkshire fog and cocksfoot. Until recently this field was an old meadow but was ploughed up prior to development which has been denied permission. As a result it may be worth visiting this site again at an appropriate point to assess its value more accurately.

TN# SP15y24 Wild onion, stone parsley, hoary ragwort, musk mallow, yarrow, common centaury, common knapweed, sand spurrey. Habitat will soon be lost to scrub.

Habitat Description

This area of land is comprised of arable and improved pasture with a large proportion of semi-improved and poor semi-improved grassland, amenity grassland and various woodland types. A large percentage of land within this area is made up of two pLWS/SINCs (Welcombe Estate SP25D1 and Wood SP15Y3) and one LNR (Welcombe Hills), these sites are comprised of some valuable wildlife habitats including species rich grassland and semi-natural broad-leaved woodland. There is a road verge in the north of the area and areas of species rich grassland that are not within the pLWS/SINCs. There are a few areas of open water which provide valuable habitat for wildlife and have the potential to support protected species.

Geological Description

This area is characterised by an outcrop of Triassic Mercia Mudstone Group and Early Jurassic Blue Lias Formation strata with scattered overlying superficial sand/gravel/clay deposits. Further details are available on the British Geological Survey's Stratford-upon-Avon Solid and Drift map (IGS 1974). There are no recorded Local Geological Sites in this area. There would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

There are records of protected species great crested newt, common lizard, grass snake, barn owl and badger within the area. Records of county rare plants Dropwort (*Filipendula vulgaris*) and Cat-mint (*Nepeta cataria*) as well as a veteran Field Maple are present within the site. Cat-mint also holds a Nationally Vulnerable status. Bat species (common pipistrelle, noctule, Whiskered/Brandt's, brown-long eared, Daubenton's, lesser horseshoe, Leisler's and Natterer's bat), otter, slow worm and common frog have been recorded just outside of the area along with other county rare plants.

Recommendations for Further Survey

The pLWS/SINC Wood SP15Y3 and pLWS/SINC Welcombe Estate SP25D1 will need to be surveyed against the LWS criteria at an appropriate time of year.

The semi-improved and poor semi-improved grassland that is not contained within the pLWS/SINCs (1, 2 & 3), should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites. A reptile and an invertebrate survey should be completed within these grasslands due to the presence of existing reptile records in the area.

A botanical survey will be required for the sections of plantation (4 & 5) between May – June, to determine the full biodiversity value of these habitats.

Further surveys for identified protected species of bird, bat, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

The ponds (6, 7, 8, 9 & 10) within this area and the water-body (5) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of these areas of open water will also need to be undertaken to ensure any development will not have any adverse affect on the water levels or water quality.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The outcome of the LWS surveys will determine the appropriate actions needed for the habitats involved within these sites. It is likely that the potential Local Wildlife Sites will qualify for designation and therefore these sites will need appropriate buffering to ensure the protection of these county important sites.

The areas of semi-improved and poor semi-improved grassland (1, 2 & 3) should be retained and buffered to prevent impact from run off and changes to hydrology affecting the sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The small sections of plantation (4 & 5) are of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the sites. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the plantation, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development/excavation in this area, with a view to (a) establishment of new records

for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'Welcombe', part of Stratford upon Avon, has a very high biodiversity value and is therefore not suitable for development. The large potential Local Wildlife Site and LNR (Welcombe Estate SP25D1 and Welcombe Hills LNR) and pLWS/SINC Wood SP15Y3 and the numerous species rich grasslands result in a large proportion of the area having a high biodiversity value. The results of the bird surveys will inform retention of any particular arable fields. It is important that the ponds within the area are retained with suitable buffer zones. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.1.9 River Avon North

Area: 76.7 hectares

Key Features

LWS/SINC The Lench Meadows SP25C1 (Extensive valuable habitat and species rich floodplain)

Linear LWS/SINC River Avon SP25Li8d

Semi-improved and poor semi-improved grassland

Marshy grassland

Open water

Scrub and woodland

Key Target Notes

TN# SP25c1 Tall rank grassland dominated by cocksfoot and Yorkshire fog with abundant to locally dominant red fescue, ragwort, frequent thistle, meadow foxtail and creeping buttercup. Hemlock and nettle are locally abundant to co-dominant near the roadside and along the river, which also includes winter-cress, great willowherb, purple loosestrife, teasel and patches of lesser celandine. Part of the area is currently being dug up in preparation for the installation of a water pipeline.

TN# SP25c2 Semi-improved grassland dominated by false oat-grass with frequent lesser celandine, some patches of teasel, dock, hairy sedge, creeping buttercup with patches of hemlock, nettle and thistle along the rivers edge and raised bank. Area extensively rabbit grazed although annual mowing has recently been introduced. Potentially rich but requiring further survey work.

TN# SP25c3 Rank unmanaged semi-improved grassland dominated by cocksfoot, false oat grass, Yorkshire fog with abundant cow parsley, creeping buttercup, locally abundant lesser celandine, cleavers, hogweed, ragwort, sorrel, hairy sedge with extensive patches of meadowsweet, teasel and nettle. Common reed, bur-dock, purple loosestrife, great willowherb, hemlock and locally dominant nettle occur along the river bank.

TN# SP25c4 Extensive marsh area mainly dominated by great willowherb with locally dominant nettle and common couch. Includes locally abundant hairy sedge, soft rush, teasel, sorrel, lesser celandine, ground ivy and meadowsweet with a small area of common reed swamp within a drainage complex. The area is generally unmanaged and rank and is bounded by a wooded ditch containing mature crack willow, elder, hawthorn and a considerable amount of dead wood.

TN# SP25c5 Complex wet area which contains greater tussock sedge dominated swamp with soft rush and pendulous sedge which is surrounded by inundation dominated by silverweed and creeping buttercup. The whole area is enclosed by wet great willowherb dominated marsh which also includes soft rush, hard rush, reed canary grass, nettle, ground ivy and patches of hemlock. Possible evidence of otter (i.e. presence of frog ovary-ducts).

TN# SP25c6 Area with inter-connecting drainage ditches (some heavily vegetated with reed mace), a large pool, low willow and hawthorn scrub, lesser pond sedge swamp, great willowherb dominated marsh and extensive areas nettle. Other

species include hemlock, purple loosestrife, teasel and winter-cress. Small areas of broadleaf plantation occur as well as scatter trees such as holly, pine and cypress.

TN# SP25c7 Area of compacted ephemeral ground dominated by bryophytes with annual grasses, procumbent pearlwort, doves foot cranes-bill, chickweed, field forget-me-not, ribwort plantain with some great mullein in areas where rubble occurs, teasel, thistle, ground ivy, perforate St John's wort. There is a transition into hard rush dominated marsh (probably due to impeded drainage) with soft rush, purple loosestrife and some lesser pond sedge.

Poor heavily rabbit grazed semi-improved grassland occurs extensively which is often lined with linear blocks of tree planting.

TN# SP25c8 Large area of poor semi-improved grassland with abundant nettle, thistle, bristly ox-tongue, ground ivy and patches of weld, common mouse-ear, clover and teasel. The area appears to be mown but is also intensively rabbit grazed.

TN# SP25c12 Area of poor semi-improved grassland with similar species to helipad field (sp25c11) but with less nettle and so dominated by grasses. Other species similar but this site also contains meadowsweet, black medick and thistle.

Habitat Description

This area of land is divided by the River Avon which runs north-east to south-west across the area. The River Avon is a linear LWS/SINC that acts as an important wildlife corridor and supports a variety of wildlife including protected species. The habitats on the southern side of the River Avon are a mix of amenity grassland and improved grassland with one area of poor semi-improved grassland in the north (1) that has a higher biodiversity value than the surrounding habitat. The habitats on the northern side of the river in the southern section of the area are dominated by the LWS/SINC The Lench Meadows SP25C1 designated in 2006, which consists of a mosaic of grassland and wetland habitats. The site itself covers approximately 29 ha of the Avon flood plain and an area of restored landfill. The site contains large areas of mostly rank neglected grassland (11ha), tall ruderal (6ha) and a smaller area of largely sedge dominated marsh (2ha). This rich mosaic supports a rich diversity of species including nationally, regionally and locally important faunal species (Cole, 2006). The main interests of the site are the marsh and swamp areas. Swamp dominated by Greater Tussock Sedge and Pendulous sedge is rare in Warwickshire and uncommon nationally. Notable invertebrate species include a Red Data Book wasp, a nationally scarce bee and a nationally scarce fly. A further invertebrate survey is recommended for this site (Steven Falk). The locally uncommon Slender Tufted Sedge (*Carex acuta*) is also found on the site. The site acts as a buffer separating Stratford on Avon from the River Avon. It acts as part of a green belt and is an important aesthetic feature (Weddall, 2000).

Geological Description

The geology of this area is characterised by Quaternary terrace deposits and alluvium. Further details are available on the British Geological Survey's Stratford-upon-Avon Solid and Drift map (IGS 1974). There are no recorded Local Geological Sites. There would be clear potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

Otters have been recorded along the River Avon in the site. Bat species including Daubenton's, noctule, common and soprano pipistrelle have also been recorded within the site along with county rare plant Parsley Water Dropwort (*Oenanthe lachenalii*), several black poplar trees and BAP butterfly White-letter Hairstreak. Badger has been recorded in the vicinity. Recorded just outside the area are commutable species barn owl, grass snake, common frog and common lizard, and bat species common pipistrelle, noctule, Serotine, brown long-eared and an indeterminate species. County rare plants of Blunt-flowered Rush and Glabrous Whitlow-grass have been recorded nearby.

Recommendations for Further Survey

The LWS/SINC The Lench Meadows will need to have further invertebrate surveys and potentially another botanical survey to establish its current status. However this site was only designated in 2006 and it is therefore likely to still be in the condition it was in during its LWS/SINC survey. More intensive species surveys for other taxa such as invertebrates, birds, reptiles and amphibians are recommended to get a full analysis of the site's county importance.

The poor semi-improved grassland (1) that is not contained within the LWS/SINC, should have a full botanical survey between June and July to fully analyse the biodiversity potential of this site. A reptile and an invertebrate survey should be completed within this grassland due to the presence of existing reptile records in the commutable area.

The Linear LWS/SINC River Avon has been assessed using the specific River Linear Local Wildlife Site criteria. The river including its tributaries have been designated a linear LWS/SINC. The River Avon will need to be surveyed for water voles and otters both desk top study for existing records and a site survey to establish current status.

A botanical survey will be required for the sections of plantation (2 & 3) between May – June, to determine the full biodiversity value of these habitats.

Further surveys for identified protected species of bird, bat, otter, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

The pond (4) within this area and the areas of open water within the LWS/SINC will need to be surveyed for amphibians in particular great crested newts. A hydrology

survey of these water-bodies will also need to be undertaken to ensure any development will not have any adverse affect on the water levels or water quality.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The LWS/SINC The Lench Meadows SP25C1 should be protected from development and buffered sufficiently to prevent any adverse affects from any potential nearby development. This site is of county importance and contains a range of threatened habitats and species and should therefore be protected. Another area of pLWS/SINC quality grassland is found nearby to the north-west within the 'Welcombe' area. Together, with a nearby park, these sites form a useful green belt feature.

The area of poor semi-improved grassland (1) should be retained and buffered to prevent impact from run off and changes to hydrology affecting the site. A management plan should be written and implemented for this grassland to maintain its biodiversity value.

The River Avon (LWS/SINC) is an important linear feature and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. The River Avon is potential water vole and existing otter habitat and needs to be protected. A minimum buffer of 10 metres needs to be implemented. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles and the existing presence of otters. A management plan for the river should be written and implemented to ensure future good management and enhancement of the habitat.

The small sections of plantation (2 & 3) are of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the sites. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the plantation, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat

through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development/excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'River Avon North', part of Stratford upon Avon, has a high biodiversity value and is therefore not suitable for development. The large (20 ha) Local Wildlife Site (The Lench Meadows SP25C1) is of significant county value. Under no circumstances should this LWS/SINC be developed as it would be a substantial loss of biodiversity for this region and for Warwickshire. The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained. The floodplain connectivity with the river must be retained. The range of habitats and the complex hydrology needs to be protected.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.2 Wellesbourne

3.2.1 River Dene Environs

Area: 71.6 hectares

Key Features

Linear pLWS/SINC River Dene SP25Li28s & SP25Li28x

pLWS/SINC Arable Field SP25W3

Poor semi-improved grassland

Pond

Plantation woodland

Key Target Notes

TN# SP25s18 Poor semi-improved on old flood meadow with scattered hawthorn scrub and horse chestnut comprised of frequent perennial rye-grass, cocksfoot, false oat-grass, smooth meadow grass, creeping buttercup, red clover and occasional red fescue and scattered broad-leaved and curled dock, nettle and cow parsley.

TN# SP25s19 Poor semi-improved on old flood meadow with scattered hawthorn scrub and horse chestnut comprised of frequent perennial rye-grass, cocksfoot, false oat-grass, smooth meadow grass, creeping buttercup, red clover and occasional red fescue and scattered broad-leaved and curled dock, nettle and cow parsley. An uncut or grazed area near the hedgerow contains tall herbs with great willowherb and nipplewort.

TN# SP25s21 River Dene lined by scattered to dense elder, hawthorn and blackthorn scrub with great willowherb, nettle, rosebay willowherb. Emergent vegetation includes reed canary grass, bur- reed, purple loosestrife and gipsywort. Within the river there are foals water-cress, arrowhead, water forget-me-not and occasional brooklime. Below the weir there is more vegetation cover as well as sidebars and riffles.

TN# SP25s23 Flood channel mostly overgrown by flote grass with foals water-cress, great willowherb and occasional brooklime and gipsywort.

TN# SP25x4 Pond created by Environment Agency in 1960s to irrigate nearby fields. Crack willow with some cleared areas possibly used by fishermen. Well established reed bends with common reed. Reed warblers seen.

Habitat Description

This area is dominated by the River Dene which flows through the centre of this area. The river is an important linear feature that acts as a green corridor, especially through the more built up areas. Although the majority of the floodplain is dominated by improved grassland there are some areas of more ecologically significant value including the poor semi-improved grasslands (1 & 2), ponds (7 & 8) and woodland and plantation (3, 4, 5 & 6). The River Dene is a linear pLWS/SINC with some areas alongside the watercourse included in the pLWS/SINC boundary that will need further survey. There is an additional pLWS/SINC (Arable Field SP25W3) that will need further surveying which includes an area of broad-leaved plantation. The areas

of plantation and woodland despite their small size and minimal level of naturalness still provide suitable habitat for roosting, breeding and foraging for wildlife. Many of the existing hedgerows have either been removed or have been un-managed, however the hedgerows that do remain are important in terms of biodiversity.

Geological Description

This area is dominated by Quaternary river terrace deposits. Further details are available on the British Geological Survey's Banbury Solid and Drift map (IGS 1982). There are no recorded Local Geological Sites within this area. There would be potential for geological recording and establishment of new records from temporary excavations.

Protected Species

Otters have been recorded on the River Dene. Other protected species records from within the site including common toad, water vole, barn owl and bats including whiskered, Leisler's, common and soprano pipistrelle, noctule and indeterminate species. County rare plants Small-flowered Sweet-briar (*Rosa micrantha*), a hawkweed (*Hieracium maculatum*), Rough Poppy (*Papaver hybridum*), Corn Buttercup (*Ranunculus arvensis*), Annual Knawel (*Scleranthus annuus ssp annuus*), Prickly Poppy (*Papaver argemone*), Night-flowering Catchfly (*Silene noctiflora*), Venus' s-Looking-Glass (*Legousia hybrida*) and black poplar and Common Lime, Sweet Chestnut, Beech veteran trees have all been recorded in the area. Corn buttercup is Nationally Critically Endangered, Annual Knawel is Nationally Endangered and Prickly Poppy and Night-flowering Catchfly are Nationally Vulnerable plants. There are records of the UK BAP butterfly species White-letter Hairstreak and Small Heath in the area. There are further protected species records just outside of the area, namely bats, grass snake, smooth newt and common frog. There is record of UK BAP butterfly species Wall outside the area plus other county rare plants.

Recommendations for Further Survey

The Linear pLWS/SINC River Dene SP25Li28s & SP25Li28x should be assessed using the specific River Linear Local Wildlife Site criteria. The River Dene will need to be surveyed for water voles and otters, both desk top study for existing records and a site survey to establish current status.

The pLWS/SINC Arable Field SP25W3 will need to be surveyed against the LWS criteria between June and July.

The poor semi-improved grassland (1 & 2) should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites. A reptile and an invertebrate survey should be completed within these grasslands due to the presence of existing reptile records within the commutable areas.

A botanical survey will be required for the small sections of woodland and plantation (3, 4, 5 & 6) between May – June, to determine the full biodiversity value of these habitats.

Further surveys for identified protected species of bat, otter, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

The ponds within this area (7 & 8) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of these ponds will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The outcome of the LWS surveys will determine the appropriate actions needed for the habitats involved within these sites. It is likely that the potential Local Wildlife Sites will qualify for designation and therefore these sites will need appropriate buffering to ensure the protection of these county important sites.

The River Dene (pLWS/SINC) is an important linear feature and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. The River Dene is potential water vole and existing otter habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles and otters. A management plan for the river should be written and implemented to ensure future good management and enhancement of the habitat.

The areas of poor semi-improved grassland (1 & 2) should be retained and buffered to prevent impact from run off and changes to hydrology affecting these sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The small areas of woodland and plantation (3, 4, 5 & 6) are of biodiversity value and should be protected from development, including designation and implementation of

a buffer zone of 50 metres around the sites. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the woodland or plantation it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context. Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'River Dene Environs', part of Wellesbourne, has a large proportion dominated by improved grassland however the River Dene and its associated floodplains are of significant biodiversity value. The areas of better quality grassland, woodland and the ponds should be protected from development. The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.2.2 South East

Area: 47.8 hectares

Key Features

Poor semi-improved grassland

Strip of semi-natural woodland

Small section of pLWS/SINC Smatchley, Loxley and Wellesbourne Woods SP25R1 (Majority of site in 'Wellesbourne South' area)

Key Target Notes

TN# SP25s12 Neglected semi-improved grassland dominated by false oat-grass with cocksfoot and Yorkshire fog as well as ragwort, black knapweed, broad-leaved dock and nettle and encroaching hazel and sycamore scrub.

Habitat Description

This area is dominated by arable land with only minimal hedgerow connectivity. The grasslands in the north are ecologically significant especially the two poor semi-improved grasslands (1 & 2). These grasslands are important for wildlife and require further investigation to determine their quality and whether there is any potential for enhancement. There is a small strip of woodland (3) in the south that provides habitat for roosting, nesting and foraging for wildlife. Part of this woodland is part of the much larger pLWS/SINC Smatchley, Loxley and Wellesbourne Wood SP25R1 that is mostly in the area 'Wellesbourne South'.

Geological Description

This area includes an area of scarpland associated with a sedimentary succession ranging from the Triassic Mercia Mudstone Group through to the early Jurassic Blue Lias Formation. Further details are available on the British Geological Survey's Banbury Solid and Drift map (IGS 1982). There are no recorded Local Geological Sites in this area. However, there would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

There are bat records of common pipistrelle and brown long-eared bat within the area. In the surrounding area are records of common toad, common frog, smooth newt, bats and UK BAP butterfly species plus county rare plants of Prickly poppy, Heath-spotted orchid and Dwarf Spurge.

Recommendations for Further Survey

The pLWS/SINC Smatchley, Loxley and Wellesbourne Wood SP25R1 will need to be surveyed against the LWS criteria between May and June.

The poor semi-improved grassland (1 & 2) should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites.

A botanical survey will be required for the small strip of woodland (3) between May – June, to determine the full biodiversity value of this habitat.

Further surveys for identified protected species of bat, amphibians, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature or important trees within the hedgerows.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The outcome of the LWS survey will determine the appropriate actions needed for the habitats involved within this site. It is likely that the potential Local Wildlife Site will qualify for designation and therefore this site will need appropriate buffering to ensure the protection of this county important site.

The areas of poor semi-improved grassland (1 & 2) should be retained and buffered to prevent impact from run off and changes to hydrology affecting these sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The small strip of woodland (3) is of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the site. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the woodland it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be

referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites. The local Blue Lias Formation and immediately underlying strata are of special interest, geologically and palaeontologically.

Conclusion

The area named 'South East', part of Wellesbourne, is dominated by low biodiversity arable land. The areas of semi-improved grassland should be protected from development and if managed sympathetically the areas biodiversity value could be enhanced. The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.2.3 South

Area: 71.1 hectares

Key Features

pLWS/SINC Smatchley, Loxley and Wellesbourne Wood SP25R1
Semi-improved grassland
Poor semi-improved grassland
Mixed plantation

Key Target Notes

TN# SP25s9 Poor semi-improved grassland dominated by smooth meadow grass, perennial rye, Timothy and occasional cocksfoot and Yorkshire fog. There is frequent creeping buttercup with occasional meadow buttercup, red clover and patches of hogweed and cow parsley.

Habitat Description

This area is dominated in the south by the pLWS/SINC Smatchley, Loxley and Wellesbourne Wood SP25R1, which is an important feature in the landscape for wildlife. Due to the size of the woodlands they provide an excellent refuge for wildlife and offers breeding, foraging and roosting habitat for a high diversity of species as well as potentially significant populations. There is an area of semi-improved grassland and an area of poor semi-improved grassland (1 & 2) which provide valuable habitat for wildlife. The small sections of plantation and woodland (3 & 4) that are not part of the large pLWS/SINC are also valuable for wildlife, and increase connectivity from the larger woodland areas into the urban green spaces. There is a small pond (5) in the west that provides valuable habitat for wildlife and has the potential to support protected species. The rest of the area is comprised of improved grassland that has a lower biodiversity value.

Geological Description

This area includes scarpland associated with a sedimentary succession ranging from the Triassic Mercia Mudstone Group through to the early Jurassic Blue Lias Formation. Further details are available on the British Geological Survey's Banbury Solid and Drift map (IGS 1982). There are no recorded Local Geological Sites in this area. There would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

There are no protected species records within the area, however there is a record of county rare plant Heath-Spotted Orchid (*Dactylorhiza maculata ssp ericetorum*). Badger has been recorded in the vicinity. Just outside of the area are records of commutable species of amphibians including barn owl, smooth newt and common frog and bat records of pipistrelle and brown long-eared bat. UK BAP butterfly species Wall and Small Heath plus county rare plants of Spiked Star of Bethlehem,

Slender Tare, Venus's Looking Glass, Glabrous Whitlow-grass and Dwarf Spurge have also been recorded just outside of the area.

Recommendations for Further Survey

The pLWS/SINC Smatchley, Loxley and Wellesbourne Wood SP25R1 will need to be surveyed against the LWS criteria between May and June.

The semi-improved and poor semi-improved grassland (1 & 2) should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites.

A botanical survey will be required for the small sections of woodland and plantation (3 & 4) between May – June, to determine the full biodiversity value of these habitats.

Further surveys for identified protected species of bat, birds, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

The pond within this area (5) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of this pond will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The outcome of the LWS survey will determine the appropriate actions needed for the habitats involved within this site. It is likely that the potential Local Wildlife Site will qualify for designation and therefore this site will need appropriate buffering to ensure the protection of this county important site.

The areas of semi-improved and poor semi-improved grassland (1 & 2) should be retained and buffered to prevent impact from run off and changes to hydrology affecting these sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The small areas of woodland and plantation (3 & 4) are of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the sites. The larger pLWS/SINC woodland should have a buffer zone of at least 100 metres. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the woodland or plantation it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites. The Blue Lias Formation and immediately underlying strata are of special interest.

Conclusion

The area named 'South', part of Wellesbourne, is dominated in the southern half by the pLWS/SINC Smatchley, Loxley and Wellesbourne Wood which is of high biodiversity value and should be protected from development including the implementation of appropriate buffer zones. It is vital that this woodland remains undamaged and as a continuous woodland, as the size of this woodland is the main reason it is so valuable for wildlife. Any loss or fragmentation of this woodland will result in a detrimental effect to the biodiversity of the area. The species rich grassland, woodland and the ponds should be protected from development. The results of the bird surveys will inform retention of any particular arable fields. The

outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.2.4 West

Area: 171.6 hectares

Key Features

Linear pLWS/SINC River Dene SP25Li28s
Post agricultural land, seeded as grassland with diverse species
Small parcel of semi-natural broad-leaved woodland
Grassland – part amenity and part semi-improved
Pond

Key Target Notes

TN# SP25s1 River Dene. Largely devoid of aquatic vegetation along this stretch, with occasional branched bur-reed along the edges. The banks are steep with patchy hawthorn and elder scrub over nettle with frequent great willowherb, reed canary grass and occasional purple loosestrife.

TN# SP25s6 Poor semi-improved grassland and amenity dominated by meadow grass spp. and perennial rye-grass with occasional red fescue and common bent. Forbs include frequent dandelion, daisy, autumn hawkbit, ribwort plantain and white clover with occasional black medick, red clover, doves-foot cranes-bill and creeping, meadow and bulbous buttercup.

TN# SP25s7 Small area of semi-improved grassland with frequent Yorkshire fog, cocksfoot, rye-grass, smooth meadow-grass and occasional red fescue. Forbs include frequent dandelion, daisy, autumn hawkbit, ribwort plantain and white clover with occasional black medick, red clover, doves-foot cranes-bill and creeping, meadow and bulbous buttercup.

TN# SP25s22 An area of tall herbs including frequent nettle, rosebay willowherb, mugwort, hemlock and ragwort with false oat grass and cocksfoot and occasional tufted hair grass.

Habitat Description

This area is dominated by Wellesbourne Mountford Airfield. Small airfields have the potential to accommodate a network of species rich grasslands, however Mountford Airfield is comprised of hard standing (air strips) and arable land and therefore is not ecologically significant. The River Dene that meanders in the northern part is a linear pLWS/SINC (SP25Li28s) that acts as an important linkage for wildlife connecting the natural habitats in the landscape with the urban habitats in Wellesbourne. An area of ecological interest within this area is contained within the two fields (1 & 2) of post agricultural land, previously set-aside. The previous recorded habitat for these fields was arable, however they now have a diversity of grassland species. It is probable that they were previously seeded to create a grassland habitat. They have not been classified as grassland despite the species composition present due to their previous habitat type and management. However these fields will need further investigation to determine their wildlife value. The areas of amenity grassland appear to have an additional mix of semi-improved and poor semi-improved grassland (5) according to the target notes SP25s7 and SP25s6, which will need further investigation. There is a small parcel of semi-natural

woodland (3) within an arable field that is of wildlife value as a refuge and for foraging, however its isolation could result in a lower biodiversity value and will therefore need further surveys to determine this. The pond (4) in the south provides valuable wetland habitat and has the potential to support protected species.

Geological Description

This area is characterised by river terrace deposits. Further details are available on the British Geological Survey's Banbury Solid and Drift map (IGS 1982). Local Geological Sites are not recorded from this area. There would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

Grass snake and common toad have been recorded within the area. There are records of county rare plants Prickly Poppy (*Papaver argemone*) and Venus's-Looking-Glass (*Legousia hybrida*) and a veteran Crack Willow within the area. Prickly Poppy is a Nationally Vulnerable plant. On the boundary of the area is a record of county rare plant Dense-Flowered Fumitory (*Fumaria densiflora*) and a veteran Oak. Just outside is a record of otter and water vole on the River Dene, grass snake, common frog, smooth newt and bat species including common pipistrelle, brown long-eared, Leisler's, and whiskered. There are numerous county rare plants recorded within the river system within the vicinity.

Recommendations for Further Survey

The Linear pLWS/SINC River Dene SP25Li28s should be assessed using the specific River Linear Local Wildlife Site criteria. The River Dene will need to be surveyed for water voles and otters, both desk top study for existing records and a site survey to establish current status.

It is recommended that the two fields (1 & 2) of post agricultural land that now resemble grassland should have full botanical surveys between June and July to determine the biodiversity value of these habitats.

A botanical survey will be required for the small section of woodland (3) between May – June, to determine the full biodiversity value of this habitat.

The semi-improved and poor semi-improved grassland (5) contained within amenity grassland should have a full botanical survey between June and July to fully analyse the biodiversity potential of this site. The target notes for this area suggest an area of more interest in amongst the amenity grassland therefore needs a more detailed survey. A reptile and an invertebrate survey should be completed within this grassland due to the presence of existing reptile records within a commutable location.

Further surveys for identified protected species of bat, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to

be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

The pond within this area (4) will need to be surveyed for amphibians, in particular great crested newts. A hydrology survey of this pond will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The River Dene (pLWS/SINC) is an important linear feature and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. The River Dene is potential water vole and existing otter habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles and otters. A management plan for the river should be written and implemented to ensure future good management and enhancement of the habitat.

The areas of semi-improved and poor semi-improved grassland (5) that are within the amenity grassland (TN# SP25s7 & SP25s6) should be retained and buffered to prevent impact from run off and changes to hydrology affecting these sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value. This may also apply to the two post agricultural fields (1 & 2) dependent on the outcome of their further botanical surveys.

The small area of woodland (3) is of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the site. This is to prevent damage to the site from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the woodland it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development/excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'West', part of Wellesbourne, is dominated by Wellesbourne Mountford Airfield which is comprised mainly of arable land. These areas are not significant for biodiversity although some small airfields can support a network of species rich grassland and should not always be discounted as an area of high biodiversity. It is important that the River Dene is protected and buffered from developed as it provides a green corridor for a range of wildlife including protected species. The areas of better quality grassland, woodland and the ponds should be protected from development. The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.2.5 North East

Area: 192.9 hectares

Key Features

Species rich road side verges
Poor semi-improved grassland
Mixed plantation
Marshy pond

Key Target Notes

TN# SP25s17 Verges with frequent false oat-grass, cocksfoot, smooth meadow-grass and occasional rough meadow-grass and red fescue. Forbs include frequent ox-eye daisy and yarrow, locally frequent black knapweed and field horse-tail with occasional meadow cranes-bill and bird's-foot trefoil.

TN# SP25t18 Species rich road verge with frequent cocksfoot, false oat-grass, rough meadow-grass and occasional perennial rye-grass, crested dog's-tail and Yorkshire fog. There is abundant black knapweed and locally frequent ox-eye daisy, black medick, bird's-foot trefoil and occasional goats-beard, field scabious and lady's bedstraw. Updated. East side of road, now poor semi-improved grassland (yarrow, common knapweed, musk mallow, smooth tare, ribwort plantain, greater plantain, meadow crane's-bill, common vetch). West side remains semi-improved, with smooth tare, self-heal, yarrow, ox-eye daisy, creeping bent, lady's bedstraw, red clover, lesser trefoil, curled dock, ribwort plantain, grass vetchling, field horsetail, bird's-foot-trefoil, cat's-ear, meadow crane's-bill, musk mallow, Oxford ragwort, hedge parsley, black medick, common mallow, hogweed, field bindweed, burdock, creeping buttercup, goat's-beard.

TN# SP25x3 Poor semi-improved meadow: red clover, scented mayweed, sun spurge.

Habitat Description

This area is dominated by low biodiversity value arable land. The area of greatest ecological significance is the species rich road verge in the north (1). There are also two small areas of poor semi-improved grassland (2 & 3) that are of wildlife value along the southern boundary of the area. These grasslands are important for wildlife and if managed sympathetically they have the potential to increase the biodiversity of the area. A small triangular section of mixed woodland (4) located amongst arable fields has a moderate biodiversity value, providing an isolated opportunity for breeding, foraging and roosting within the arable landscape. The marshy pond in the north (8) provides valuable wetland habitat for wildlife and has the potential to support protected species. There are some allotments (5) that have a moderate biodiversity value by providing habitat for foraging opportunities and the potential presence of rare arable plants along the plot boundaries and therefore will need further investigation. There are hedgerows (6 & 7) that are intact with mature trees that have the potential to be species rich or ancient.

Geological Description

This area is characterised by Quaternary river terrace deposits. Further details are available on the British Geological Survey's Banbury Solid and Drift map (IGS 1982). Local Geological Sites are not recorded from this area. There would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

There are records of common pipistrelle bat, smooth newt and common frog within the site. Just outside the site are more bat records including *Myotis* sp. Soprano pipistrelle, brown long-eared and noctule, otter, grass snake, common toad, common frog, and UK BAP butterfly species Small Heath and the Wall. There are several records of brown hare, a UK BAP species, in the surrounding area plus county rare plant species include corn spurrey var., mousetail, violet helleborine, night-flowering catchfly, prickly poppy, annual knawel, rough poppy, small-flowered sweet-briar, hawkweed sp., Yellow Vetching, wild liquorice and corn spurrey.

Recommendations for Further Survey

The species rich road verge (1) should have a full botanical survey between June and July to fully analyse the biodiversity potential of this site. It is recommended that this road verge be highlighted as a potential Local Wildlife Site and be fully surveyed against the Local Wildlife Site criteria.

The poor semi-improved grassland (2 & 3) should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites. A reptile and an invertebrate survey should be completed within these grasslands due to the presence of existing reptile records within a commutable location.

A botanical survey will be required for the small section of mixed plantation (4) between May – June, to determine the full biodiversity value of this habitat.

Further surveys for identified protected species of bat, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value to identify any mature and important trees within the hedgerows. Of particular interest are some hedgerows alongside two roads (6 & 7).

The marshy pond within this area (8) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of this pond will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The species rich road verge (1) is an important linear feature that should be protected from development and buffered either side of the feature.

The areas of poor semi-improved grassland (2 & 3) should be retained and buffered to prevent impact from run off and changes to hydrology affecting these sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The small area of mixed plantation (4) is of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the sites. This is to prevent damage to the site from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the plantation, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that the allotments (5) are retained as they are valuable green spaces along an urban fringe that have the potential to support a range of wildlife.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'North & East', part of Wellesbourne, has a large proportion dominated by low biodiversity value habitats (arable land and improved grassland). The species rich road verge is an important linear feature that should be protected and buffered from development. Any development should avoid the areas of poor semi-improved grassland, the marshy pond and the allotments. The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.3 Kineton

3.3.1 North-East

Area: 89.9 hectares

Key Features

Linear pLWS/SINC River Dene SP35Li28k

Linear pLWS/SINC disused railway SP35Li29k

Pond

Broad-leaved semi-natural woodland

Multiple hedgerows

Small section of semi-improved grassland

Key Target Notes

No key target notes within this area boundary.

Habitat Description

This area of land is predominantly arable, improved grassland and amenity grassland, which are of low biodiversity value. The ecologically significant features include a disused railway (Dismantled Railway pLWS/SINC SP35Li29k), watercourse (River Dene pLWS/SINC SP35Li28K), a small section of semi-natural woodland (1). There are multiple intact hedgerows, including numerous examples with mature trees along their length. The disused railway (pLWS/SINC) and the River Dene (pLWS/SINC) are important linear features that create green corridors for wildlife. The semi natural woodland provides opportunities for foraging, nesting and roosting for many species. The pond (2) is an important habitat for a range of wildlife and has the potential to support protected species.

Geological Description

This area is characterised by an outcrop of Early Jurassic Blue Lias Formation strata, with traces of overlying Quaternary deposits. Further details are available on the British Geological Survey's Banbury Solid and Drift map (IGS 1982). There are no recorded Local Geological Sites in this area. There would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

No protected species have been recorded within the area. Just outside the area are records of indeterminate bat species, water vole, grass snake and common toad. There are records of UK BAP species Brown Hare and Small Heath butterfly outside of the area.

Recommendations for Further Survey

The Linear pLWS/SINC River Dene SP35Li28k should be assessed using the specific River Linear Local Wildlife Site criteria. The River Dene will need to be surveyed for water voles, both desk top study for existing records and a site survey to establish current status.

The Linear pLWS/SINC Dismantled Railway SP35Li29k will need to be subjected to the Local Wildlife Site Criteria via a full botanical survey.

A botanical survey will be required for the section of broad-leaved semi-natural woodland (1) between May – June, to determine the full biodiversity value of this habitat.

Further surveys for identified protected species of bat, amphibians, reptiles, invertebrates will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

The pond within the parcel (2) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of the pond will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The River Dene (pLWS/SINC) is an important linear feature and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. The River Dene is potential water vole habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles. A management plan for the river should be written and implemented to ensure future good management and enhancement of the habitat.

The section of semi-natural woodland is of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the site. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the woodland, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within the area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the area. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as LGS.

Conclusion

The area named 'North-East', part of Kineton, has a limited biodiversity value due to the prominence of arable and improved grassland. Any development within this area should avoid the dismantled railway, River Dene and adjacent water-body. The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.3.2 South

Area: 133.8 hectares

Key Features

pLWS/SINC King John's Castle SP35F1
Linear pLWS/SINC River Dene SP35Li28f & k
pLWS/SINC River Dene Floodplain SP35K4
Linear pLWS/SINC Dismantled Railway SP35Li29f & K
Semi-natural woodland and grassland
Semi-improved and poor semi-improved grassland
Semi-natural woodland and scrub
Multiple hedgerows
Adjacent potential unimproved meadow (1 & 2)

Key Target Notes

TN# SP35f2 This area is dominated by dense scrub, the dominant species is hawthorn, however, there are also some occasional ash and sycamore. Towards the stream, apple trees become the more dominant species and the hawthorn is restricted to the understorey. The ground flora is dominated by brambles, nettles and rosebay willowherb. False brome dominates the outer fringes where there is also a scattering of meadowsweet and meadow cranes-bill.

TN# SP35f3 This area has a profusion of ruderals and perennial forbs. Nettles, creeping thistle, false oat-grass and tufted hair-grass are the more dominant species within the area. There are also frequent examples of hawthorn, cleavers, hedge bindweed and black Knapweed with an occasional scattering of Timothy grass.

TN# SP35f8 This area is poor semi-improved grassland, the site is dominated by perennial ryegrass, false oatgrass and cocksfoot and has frequent ribwort plantain and creeping thistle. There is an occasional presence of hedge bindweed and burdock and also a scattering of dock and nettles which seem to be growing in distinct patches. Old orchard. Not as interesting as field of sp35f18 but with some characteristics of unimproved grassland. With agrimony, bird's-foot-trefoil, cowslip.

TN# SP35f15 Lady's bedstraw (A), Yarrow, lesser knapweed, bird's-foot-trefoil, common mouse-ear, red clover, white clover, meadow vetchling. Most of the interesting forbs are away from the encroaching patches of nettle, creeping thistle, field bindweed on the slopes of the west and the north sides of the field. However, yarrow, lady's bedstraw, cowslip, meadow vetchling, bird's-foot-trefoil, pignut, great burnet at north-east of site in a 50 m square, meadow buttercup.

TN# SP35f17 Area near weir (not marked on OS map) has characteristics of wet meadow. Dominated by bulrush, common reed, creeping bent, soft rush, meadow vetchling, creeping buttercup, great willowherb, crack willow, meadowsweet, hard rush, soft rush, smooth-stalked sedge, occasional square-stalked St John's-wort, creeping thistle.

TN# SP35f18 Ridge and furrow hay meadow, unimproved grassland, registered for equestrian grazing and cut once annually for hay. South side most interesting. With meadow vetchling, meadow buttercup, yarrow, yellow rattle, red clover.

TN# SP35F19 50 m square area of unimproved grassland (B21) within field of semi-improved grassland. Contains yarrow, lady's bedstraw, cowslip, meadow buttercup, meadow vetchling, pignut, bird's-foot-trefoil, and great burnet. Remainder of field contains abundant lady's bedstraw, yarrow, lesser knapweed, common mouse-ear, red clover, nettles and creeping thistle encroaching on site.

TN# SP35k23 Damp, un-grazed meadow dominated by coarse grasses such as false oat-grass, cocksfoot and meadow foxtail. Cow parsley and hogweed are abundant and ground ivy is occasional where the grass is shorter. Towards the northern end of the field, winter-cress is occasional and meadow crane's bill and meadowsweet become frequent to abundant. Site now dominated by meadowsweet, great willowherb, common nettle, hedge bindweed, curled dock, burdock, hogweed, and in the more central area of the site, meadow crane's-bill.

Habitat Description

This area of land has numerous high biodiversity areas contained in the centre sections and around its periphery. A moderate proportion of the area is comprised of arable and improved grassland. However situated within these less valuable areas are some important grassland habitats and a number of pLWS/SINCs. Some of the important grassland habitats are not classified as pLWS/SINCs but are potentially of LWS quality. Two grasslands (1 & 2) that are not contained within the potential development areas or the buffer zone are significant enough in their quality to warrant protection and suitable buffering. One of these grasslands has been highlighted as potentially unimproved grassland (1) and although it is argued that there are no truly unimproved grasslands within Warwickshire any meadow that has extremely limited improvement is very valuable. Unimproved grassland is currently thought to only cover less than 300 hectares within Warwickshire (HBA 2008, Warwickshire's Wildflowers – Steven J. Falk 2009). Two other significant features of this area are the dismantled railway and the River Dene that are important wildlife corridors. There are numerous small areas of woodland, plantation and scrub (3, 4, 5 & 6) that are suitable for foraging, nesting and roosting for many species.

Geological Description

This area is characterised by an outcrop of Early Jurassic Blue Lias Formation strata, with traces of overlying Quaternary deposits. Further details are available on the British Geological Survey's Banbury Solid and Drift map (IGS 1982). There are no recorded Local Geological Sites in this area. There would be potential for geological recording and establishment of new records in shallow to deep excavations within this area.

Protected Species

Within the site are records of water vole, common toad, barn owl and badger. There are records of county rare plants Field Garlic (*Allium oleraceum*), Almond Willow (*Salix triandra*) and Purple Willow (*Salix purpurea*) at the boundary. Field Garlic is a Nationally Vulnerable plant. Just outside of the area are records of commutable bat species (Pipistrelle sp. and indeterminate species), grass snake and common toad and the Small Heath, a UK BAP listed butterfly species.

Recommendations for Further Survey

The pLWS/SINC King John's Castle SP35F1, pLWS/SINC River Dene Floodplain SP35K4 and the Linear pLWS/SINC Dismantled Railway SP35Li29f & k within the buffer zone will need to be subjected to the Local Wildlife Site criteria via full botanical surveys. The potentially unimproved meadow and the species rich semi improved meadow (TN# SP35f15 and SP35f19) should be classified as pLWS/SINCs and surveyed accordingly.

The areas of semi-improved grassland, poor semi-improved grassland and especially the areas of potentially unimproved grassland should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites. A study of the hydrology for the marshy areas of grassland will need to be completed to analyse the potential effects of development on this sensitive habitat. A reptile and an invertebrate survey should be completed within these grasslands due to the presence of existing reptile records within a commutable location.

The Linear pLWS/SINC River Dene SP35Li28f & k should be assessed using the specific River Linear Local Wildlife Site criteria. The River Dene will need to be surveyed for water voles, both desk top study for existing records and a site survey to establish current status. The river is otter positive.

A botanical survey will be required for the sections of semi-natural woodland, scrub and plantations (3, 4, 5 & 6) between May – June, to determine the full biodiversity value of these habitats.

Further surveys for identified protected species of bat, bird amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

The ponds within this area will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of the pond will also need to be undertaken to ensure any development will not have any adverse affect on the water levels or water.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European

Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The River Dene (pLWS/SINC) is an important linear feature and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. The River Dene is potential water vole and existing otter habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles. A management plan for the river should be written and implemented to ensure future good management and enhancement of the habitat.

The pLWS/SINCs within this area should be protected and buffered accordingly dependent on the outcome of the Phase 2 surveys.

The areas of species rich grassland should be retained and buffered to prevent impact from run off and changes to hydrology affecting the site. The potentially unimproved meadow and semi-improved meadow should be classified as pLWS/SINCs and when fully surveyed protected and buffered accordingly. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The small sections of woodland, plantation and scrub (3, 4, 5 & 6) are of significant biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the site. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With mature trees in the woodland, plantation or scrub, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development/excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'South' part of Kineton has multiple areas of high biodiversity. The most significant features are the species rich grasslands and the pLWS/SINCs within and adjacent to development areas. The River Dene is important habitat for otters and potentially for water voles. Any development would need to avoid these ecologically important areas. The linear features within this area should be retained and buffered to retain connectivity with the surrounding landscape. The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the smaller woodland areas and which hedgerows should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.3.3 North-West

Area: 79.7 hectares

Key Features

Good quality semi-improved grassland
Linear pLWS/SINC Dismantled Railway SP35Li29f
Small sections of woodland
Multiple hedgerows
Pond

Key Target Notes

TN# SP35f1 The area consists of a disused railway line and embankment. The railway cutting is dominated by tall ruderals and perennial forbs. The fringing embankment is mainly composed of scrub dominated by hawthorn and sycamore with a scattering of young ash, elder and blackthorn. The area where the track used to lie has an abundance of nettles and black bindweed, with occasional rosebay willowherb, teasel, ragwort, and curled dock.

TN# SP35f7 This area consists of a small ash plantation, the site borders an old disused railway cutting so there is also quite an abundance of hawthorn, bramble, ground ivy and nettles.

TN# SP35f13 Remnants of unimproved grassland on slope facing south-west. Lady's bedstraw, daisy, bird's-foot-trefoil, gorse, creeping cinquefoil, red clover, salad burnet, black medick, herb Robert.

TN# SP35f20 Hay meadow, cut once a year for hay. Common mouse-ear, meadow vetchling, common vetch, daisy, yarrow, cowslip, hop trefoil, ox-eye daisy, black medick, lady's bedstraw, red clover.

Habitat Description

This area is predominantly low biodiversity value improved grassland. The ecologically significant features are the good quality semi improved grassland (1) and the linear pLWS/SINC Dismantled Railway SP35Li29f. There are multiple intact hedgerows that are valuable for wildlife and enhance the connectivity of the landscape. The small segmented sections of woodland and plantation (2, 3, 4, 5, 6 & 7) are valuable habitat for nesting, foraging and roosting opportunities for many species.

Geological Description

This area is characterised by an outcrop of the Early Jurassic Blue Lias Formation, with a fringing outcrop of Quaternary deposits mapped as Boulder Clay. Further details are available on the British Geological Survey's Banbury Solid and Drift map (IGS 1982). There are no recorded Local Geological Sites in this area. There would be clear potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

Within the area there are records of grass snake and common toad, and UK BAP butterfly Small Heath. There are further records just outside of the area include grass snake, common toad, Pipistrelle bat and badger, barn owl and the county rare plant of Field Garlic.

Recommendations for Further Survey

The good quality semi-improved grassland (1) should have a full botanical survey between June and July to fully analyse the biodiversity potential of this site and possibly be classified as a pLWS/SINC. A reptile and an invertebrate survey should be completed within this grassland due to the existing reptile records within a commutable area.

The Linear pLWS/SINC Dismantled Railway SP35Li29f will need to be subjected to the Local Wildlife Site Criteria via a full botanical survey.

A botanical survey will be required for the sections of broadleaved semi-natural woodland and plantation (2, 3, 4, 5, 6 & 7) between May – June, to determine the full biodiversity value of these habitats.

Further surveys for identified protected species of bat, bird, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

The pond (8) within this area will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of the pond will also need to be undertaken to ensure any development will not have any adverse affect on the water levels or water.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The area of semi-improved grassland (1) should be retained and buffered to prevent impact from run off and changes to hydrology affecting the site. A management plan should be written and implemented for this grassland to maintain its biodiversity value.

The pLWS/SINC Dismantled Railway SP35Li29f is an important linear feature that creates a green corridor for wildlife and should therefore be protected from development and have suitable buffer zones implemented.

The small sections of semi-natural woodland and plantation (2, 3, 4, 5, 6 & 7) are of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the sites. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the woodland and in the plantation, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'North-West', part of Kineton, has a limited biodiversity value due to the prominence of improved grassland. Any development within this area should avoid the area of good quality semi-improved grassland and buffer sufficiently for the dismantled railway. The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhanced before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.4 Bidford-on-Avon

3.4.1 North-East

Area: 88.0 hectares

Key Features

pLWS/SINC Summer Hill Roadside Verge and Grassland SP15B1

Disused railway

Orchard

Multiple hedgerows

Key Target Notes

TN# SP15b17 Quality of grassland improves gradually going uphill as the roadside verge widens. Meadow vetchling is abundant in 2 areas within uppermost 50 m on right hand verge. The left verge is dominated by creeping thistle, but there is a significant area of perforate St John's wort and black medick, mugwort, and lesser swine cress. Forbs on both sides include ribwort plantain, burdock, creeping cinquefoil, yarrow, creeping thistle, field bindweed, common mallow, hemlock, rough chervil, creeping buttercup, common nettle, scentless mayweed. Hedgerow includes blackthorn, bramble, hazel, ash, and hawthorn.

Habitat Description

This area is dominated by arable land with a few areas of improved grassland. The most ecologically significant features are the disused railway (2), the road verge that is part of a pLWS/SINC (Summer Hill Roadside Verge and Grassland SP15B1) and the small orchard (1). The disused railway (2) is an important linear feature that is dominated by undisturbed scrub a valuable habitat for birds and invertebrates. The small section of orchard (1) provides habitat for roosting, nesting and foraging for many species and is particularly valuable for birds.

Geological Description

This area is dominated by Quaternary terrace deposits of the River Avon. The significance of these deposits is underlined by the presence of the Broom Railway Cutting Geological SSSI, lying just outside of the area under consideration. Further details are available on the British Geological Survey's Stratford-upon-Avon Solid and Drift map (IGS 1974). There are no Local Geological Sites within this area. There would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

Within the area are records of Serotine bat and on the boundary of the area is a barn owl record. Just outside the area are further barn owl, grass snake and bat records including common pipistrelle, Leisler's bat and an indeterminate species. There are

records of UK BAP butterfly species Small Heath and White-letter Hairstreak just outside of the area.

Recommendations for Further Survey

The pLWS/SINC (Summer Hill Roadside Verge and Grassland SP15B1) will need to be surveyed against the LWS criteria between June and July.

A botanical survey will be required for the orchard (1) between May – June, to determine the full biodiversity value of this habitat. A bird survey is also recommended. The disused railway (2) is an important linear feature that will also need further survey at a similar time of year.

Further surveys for identified protected species of bat, bird, amphibians, reptiles and invertebrates will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

A desktop and field bird survey is recommended within the arable fields regarding rare farmlands birds.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value to identify any mature and important trees within the hedgerows.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The outcome of the LWS survey will determine the appropriate actions needed for the habitats involved within Summer Hill Road Verge and Grassland SP15B1. It is likely that the potential Local Wildlife Site will qualify for designation and therefore this site will need appropriate buffering to ensure the protection of this county important site.

The orchard (1) is of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the site. This is to prevent damage to the site from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the orchard, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Avon Valley Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'North East', part of Bidford-on-Avon, is dominated by low biodiversity value habitats (arable land and improved grassland). Results of bird surveys need to be considered prior to final decisions on these areas. Any development should avoid the important features which consist of the disused railway and the section of road verge that forms part of a pLWS/SINC (Summer Hill Road Verge and Grassland). The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the scrub, orchard and hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.4.2 South

Area: 136.3 hectares

Key Features

Linear LWS/SINC River Avon SP05Li8v

pLWS/SINC Fields SP05V5

Mixed plantation

Post agricultural land

Key Target Notes

TN# SP05v7 pLWS/SINC Poor semi-improved meadow with meadow foxtail, meadow grass spp, crested dog's-tail and occasional cocksfoot. There is much cow parsley especially along the edges as well as bulbous buttercup, ladies smock, meadow vetchling and patches of hawthorn scrub. The southern corner contains tall ruderals such as nettle, butterbur, cow parsley and broad-leaved dock.

TN# SP05v8 pLWS/SINC Poor semi-improved meadow with meadow foxtail, meadow grass spp, crested dog's-tail and occasional cocksfoot. There is cow parsley especially along the edges as well as bulbous buttercup, ladies smock, meadow vetchling and patches of hawthorn scrub. Four buzzards were seen displaying overhead and a yellow wagtail spotted on fence post.

TN# SP05v9 Linear LWS/SINC River Avon. Deep and slow moving at this point with yellow water-lily, common club rush, reed sweet grass and reed canary grass. The bank-side is steep and covered with nettle and cow parsley with occasional hedge bedstraw and tansy. Reed warblers and reed bunting seen during survey.

Habitat Description

This area has a combination of arable land and improved grassland which are low biodiversity value habitats. The area is split by the most important feature the Linear LWS/SINC River Avon SP05Li8v. The river is a significant ecological asset and provides valuable connectivity through this area and with the surrounding landscape. There is a pLWS/SINC (Fields SP05V5) that will need further surveying but is likely to consist of some valuable flood-plain meadow habitat that has the potential to support a wide range of species. There is a small section of mixed plantation (1) that despite a mix of non native and native tree species still has the potential to be a valuable habitat resource for wildlife. There is a pond (2) near the plantation that will also need further surveying for amphibians especially for great crested newts. There are two areas of post agricultural land (3 & 4) that will need further survey to determine whether the habitats that have established are valuable to wildlife.

Geological Description

This area is characterised by Triassic Mercia Mudstone, overlain by Terrace deposits and alluvium of the River Avon. Further details are available on the British Geological Survey's Stratford-upon-Avon Solid and Drift map (IGS 1974). There are no Local Geological Sites within this area. There would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

Grass snake and Small Heath, a UK BAP butterfly species has also been recorded within the area. Just outside of the area there are records of bats (including common and soprano pipistrelle, Leisler's, noctule, serotine, Daubenton's, brown long-eared and indeterminate species), barn owl, common toad, brown hare and Small Heath. On the boundary of the area is county rare plant record of Wild Clary (*Salvia verbenaca*), Toothed medick and Early marsh orchid.

Recommendations for Further Survey

The Linear LWS/SINC River Avon SP05Li8v has been assessed using the specific River Linear Local Wildlife Site criteria and has been designated a Linear LWS/SINC. The River Avon will need to be surveyed for water voles and otters, both desk top study for existing records and a site survey to establish current status.

The pLWS/SINC Fields SP05V5 will need to be surveyed against the LWS criteria between June and July.

A botanical survey will be required for the small section of mixed plantation (1) between May – June, to determine the full biodiversity value of this habitat.

Further surveys for identified protected species of bat, barn owl, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value to identify any mature and important trees within the hedgerows.

The pond within this area (2) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of this pond will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

The areas of post agricultural land (3 & 4) will need full botanical surveys between June and July to determine the value of these sites for wildlife. An invertebrate survey is also recommended for these areas.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European

Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The outcome of the LWS surveys will determine the appropriate actions needed for the habitats involved within these sites. It is likely that the potential Local Wildlife Site will qualify for designation and therefore this site will need appropriate buffering to ensure the protection of this county important site.

The River Avon (Linear LWS/SINC) is an important linear feature and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. The River Avon is potential water vole and existing otter habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles and the presence of otters. A minimum buffer of 10 metres is required for otter positive areas. A management plan for the river should be written and implemented to ensure future good management and enhancement of the habitat.

The small area of mixed plantation (1) is of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the site. This is to prevent damage to the site from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the plantation it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Avon Valley Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development/excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'South', part of Bidford-on-Avon, has a large proportion of arable land and improved grassland which are low biodiversity value habitats, however other parts of the area are of higher biodiversity. There is a pLWS/SINC (Fields SP05V5) that requires protection from development with a suitable buffer zone. One of the most important features is the Linear LWS/SINC River Avon. The river and its associated riparian habitats are vital as green corridors and should be buffered significantly to protect this aspect. The area of mixed plantation and the pond should be protected from development. The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.4.3 North

Area: 69.2 hectares

Key Features

Disused railway

Old orchard

Scrub

Semi-natural woodland

Broad-leaved plantation

Key Target Notes

TN# SP05w14 An area of rough grassland with false oat-grass, cocksfoot, rough meadow-grass, ribwort plantain, ragwort, beaked hawks-beard, black medick, cut-leaved crane's-bill and occasional dock.

TN# SP05w19 Narrow pathway with old railway bridge to the west, nursery to the east side. The most interesting forbs are on the eastern side of the path where there is a wet ditch. Trees that are present are alder, oak, hawthorn, with bramble, meadow vetchling, meadow buttercup, common vetch, greater plantain, hogweed, yarrow, creeping cinquefoil, ground ivy, ragwort, broad-leaved dock, herb Robert, hedge woundwort, creeping buttercup, black medick, male fern and creeping thistle.

Habitat Description

This area is largely dominated by arable and improved grassland which are of low biodiversity value. The areas in the south were previously dominated by semi-improved grassland, however all these areas are now either improved grassland, tall ruderal, plantation, amenity grassland or scrub. Despite this loss in high biodiversity habitat the areas of plantation, scrub and old traditional orchard that remain (1, 2, 3, 4, 5, 6, 7, 8, 9 & 10) are valuable habitat for wildlife especially birds and invertebrates and therefore require further surveying to determine their full biodiversity potential. The disused railway dissecting the area in the north is an important linear feature that will need further surveying. This feature acts as a green corridor and the section that is contained within Bidford on Avon 'West' is part of a designated Local Wildlife Site.

Geological Description

This area is dominated by terrace deposits of the River Avon, overlying Mercia Mudstone bedrock. Further details are available on the British Geological Survey's Stratford-upon-Avon Solid and Drift map (IGS 1974). There are no Local Geological Sites recorded within this area. There would be clear potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

There are no known protected species records within the area. Just outside the area are records of great crested newt, grass snake plus commutable bat species including Daubenton's, noctule, brown long-eared, common pipistrelle, and indeterminate species.

Recommendations for Further Survey

A botanical survey will be required for the small sections of scrub and woodland and the areas of plantation and old traditional orchard (1, 2, 3, 4, 5, 6, 7, 8, 9 & 10) between May – June, to determine the full biodiversity value of these habitats. A large proportion of this area has been surveyed as part of a planning application. These additional surveys were conducted during January 2008, which is not the correct time of year to carry out a botanical survey. Therefore it is still recommended that these areas currently part of a planning application (5, 6, 7, 8 and 9) are surveyed at a more appropriate time in the survey season (May – June). The disused railway is an important linear feature that will also need further survey at a similar time of year.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Further surveys for identified protected species of bat, amphibians, reptiles and invertebrates will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value to identify any mature and important trees within the hedgerows.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The multiple areas of scrub, woodland, plantation and orchard (1, 2, 3, 4, 5, 6, 7, 8, 9 & 10) are of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the sites. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. The areas of old traditional orchard should be retained and buffered as this habitat is an important BAP habitat and has the potential to support

a diversity of wildlife in particular birds. With any mature trees in the orchard, scrub or plantations, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Avon Valley Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development/excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'North', part of Bidford-on-Avon, has large areas dominated by low biodiversity value habitats (arable land and improved grassland). The important feature is the disused railway and the areas of old traditional orchard and these should be protected from development. The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the scrub, woodland, plantation and hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.4.4 West

Area: 79.4 hectares

Key Features

LWS/SINC SP05W2 Broomtip
LWS/SINC SP05W1 Disused Railway
SSSI Broom Railway Cutting (geological SSSI)
Semi-improved grassland
Orchard
Post agricultural land

Key Target Notes

TN# SP05v10 Orchard over rough false-oat grassland.
TN# SP05v11 Poor semi-improved grassland with false oat-grass and cocksfoot.
TN# SP05w9 LWS/SINC Disused railway with dense elder, elm and hawthorn scrub with some oak and ash over bramble and nettle.
TN# SP05w10 LWS/SINC A small area of hawthorn and blackthorn scrub with occasional young oak and ash over bramble, dog rose, cow parsley, soft brome, false oat grass, rough meadow-grass and barren brome. Forbs are limited to cut-leaved crane's-bill, common vetch and germander speedwell.
TN# SP05w11 LWS/SINC Abandoned grassland largely taken over by hawthorn, blackthorn and elder scrub over bramble, broom, dog rose, false oat-grass, cocksfoot, cow parsley, common vetch and red campion. There is some evidence of management with some areas of grass having been mown. Bee orchid is reported at the site.

Habitat Description

This area is comprised of mainly arable and improved grassland which have a low biodiversity value. There are two LWS/SINCs based in the northern section (Broomtip SP05W2 and Disused Railway SP05W1) that were surveyed in 2009 and are of county importance. A geological SSSI Broom Railway Cutting is located just outside the area boundary, however it is contained within the existing LWS/SINC Disused Railway SP05W1. Broomtip (LWS/SINC) consists of a mosaic of habitats including semi-natural broadleaved woodland, semi-improved grassland, tall herb and dry reed swamp. The site contains a type of grassland, which is an increasingly scarce habitat both in Warwickshire and nationally due to the agricultural improvement of most grassland since the 1940's. The site supports several plants which are scarce in Warwickshire, including wild basil, small teasel, meadow oat-grass and common bistort. Of other groups, the site supports at least four breeding birds on the national Red List, of which two (turtle dove and grasshopper warbler) are now scarce in Warwickshire. The site also supports at least two nationally scarce moths (twin-spotted wainscot and silver cloud), of which the first has been proved to breed at just two other sites in the county (Bowley, 2010). The Disused Railway (LWS/SINC) is a deep cutting that is dominated by hawthorn and blackthorn scrub with a ground flora dominated by marshy plant species. This habitat is fairly undisturbed and is therefore an important breeding bird habitat and turtle doves (Red

Data list birds species) have been known to breed at this site. There is a small area of semi-improved grassland (1) that requires would need further investigation to determine the full potential of this site. South of this area is an orchard (2) which has the potential to be important to many species especially farmland birds and therefore this site will need further surveys. There is a large area of post agricultural land that may be of botanical interest that will also need further investigation (3).

Geological Description

This area is characterised by an outcrop of Mercia Mudstone Group bedrock with a variable Terrace Gravel cover, fringed by a low escarpment of Late Triassic Penarth Group strata that merges into the Blue Lias Formation dip slope. Further details are available on the British Geological Survey's Stratford-upon-Avon Solid and Drift map (IGS 1974). There are no Local Geological Sites within this area. There would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

In this area there is a bat record of an indeterminate species. There is a record of county rare plant Toothed Medick (*Medicago polymorpha*). Within close proximity of the boundary are bat records including common pipistrelle, Daubenton's, noctule and brown long-eared, great crested newt, barn owl and UK and Local BAP species the Small Blue butterfly.

Recommendations for Further Survey

Both of the pLWS/SINCs (Broomtip SP05W2 and Disused Railway SP05W1) were surveyed during the summer of 2009 against the LWS criteria.

The semi-improved grassland (1) should have a full botanical survey between June and July to fully analyse the biodiversity potential of this site.

A botanical survey will be required for the orchard (2) between May – June, to determine the full biodiversity value of this habitat.

Further surveys for identified protected species of bat, bird, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

The area of post agricultural land (3) will need a full botanical survey between June and July to determine the value of this site for wildlife.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify mature and important trees within the hedgerows.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The Local Wildlife Sites Broomtip SP05W2 and Disused Railway SP05W1 require protection and appropriate buffering to ensure the protection of these county important sites. A buffer zone of 50 metres is recommended for each local wildlife site.

The area of semi-improved grassland (1) should be retained and buffered to prevent impact from run off and changes to hydrology affecting this site. A management plan should be written and implemented for this grassland to maintain its biodiversity value.

The orchard (2) is of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the sites. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the orchard, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Avon Valley Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development/excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'West', part of Bidford-on-Avon, has a large proportion of low biodiversity value habitats (arable land and improved grassland). The Local Wildlife Sites (Broomtip and Disused Railway) the areas of semi-improved grassland and the orchard should be protected from development. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained. The results of bird surveys will inform retention of any particular arable fields.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.5 Alcester

3.5.1 North & River Arrow

Area: 171.6 hectares

Key Features

Linear LWS/SINC River Arrow SP05Li16z

LNR River Arrow

pLWS/SINC Field at Alcester SP05U2

pLWS/SINC River Arrow Valley Nature Reserve LNR SP05Z2

pLWS/SINC Alcester Cemetery SP05Y1

pLWS/SINC River Arrow, Riparian Woodland SP05Z1

Semi-improved grassland and poor semi-improved grassland

Ponds

Broad-leaved semi-natural woodland

Mixed plantation

Species rich hedgerows with associated species rich wet ditches

Key Target Notes

TN# SP05z1 pLWS/SINC A rich meadow reportedly used as winter grazing for sheep, containing abundant sweet vernal grass and yellow rattle with frequent sorrel, meadow and bulbous buttercup, bush and common vetch, soft brome, Yorkshire fog and meadow foxtail. Also present are black medick, cocksfoot, pignut, germander speedwell and red clover.

TN# SP05z6 Poor semi-improved grassland with abundant meadow foxtail and frequent soft brome, smooth meadow grass and cocksfoot. Forbs are limited to bulbous and meadow buttercup and common mouse-ear. The small shallow pond contains soft rush and sweet grass sp.

TN# SP05z8 Apparently unmanaged grassland with frequent meadow foxtail, cocksfoot, false oat grass and occasional red fescue, soft brome, sweet vernal grass and tufted hair grass. Forbs are limited to occasional bulbous buttercup, creeping thistle and common mouse-ear.

TN# SP05z10 Poor semi-improved grassland with abundant meadow foxtail and frequent soft brome, smooth meadow grass and cocksfoot. Forbs are limited to bulbous and meadow buttercup and common mouse-ear.

TN# SP05z11 pLWS/SINC Wet woodland with ash, alder and willow and hawthorn beneath. The ground flora is dominated by nettle with patches of ransom, red campion and yellow archangel.

TN# SP05z19 Disused railway dominated by nettle, hogweed, cow parsley and occasional teasel and burdock and some encroaching elder scrub. To the west there are patches of false oat grass, common couch and red fescue.

TN# SP05z22 pLWS/SINC Pond in local nature reserve surrounded by alder, willow and hawthorn. Gaps between the scrub are sheep grazed right up to the water's edge. Emergent vegetation includes bur-reed and soft rush. The remains of the millrace on the west side of the pond is overgrown with nettle, garlic mustard, cow

parsley and cleavers and occasional hairy brome and red campion. The associated boggy area contains brooklime, creeping buttercup and great bitter-cress.

TN# SP05z23 pLWS/SINC Footpath and verge lined by ash, willow, hawthorn and blackthorn with occasional dogwood. The verge contains mostly tall herbs such as nettle, willowherb, dock and occasional burdock and teasel as well as red campion, creeping buttercup, cleavers, cocks foot, hedge woundwort and occasional reed canary grass and meadowsweet on the side next to the pond.

TN# SP05z33 Semi-improved grassland including musk mallow, perforate St John's wort, teasel, creeping cinquefoil, common ragwort, and rose scrub.

TN# SP05z34 With ash trees, one with bat potential (hole in trunk and branches).

TN# SP05z37 Semi-improved grassland including musk mallow, perforate St John's wort, teasel, creeping cinquefoil, common ragwort, and rose scrub.

TN# SP05z38 Similar to sp05z37, and with pyramidal orchid at edge.

TN# SP05z39 No hedgerow. Tall ruderals. Hedge bindweed, false oat-grass and nettle along bank. Track is mown, poor semi-improved grassland. Common knapweed, meadow vetchling, lady's bedstraw.

TN# SP05z51 Hedgerow with old laid hawthorn and field maple in hedge. Gaps have been planted up in last 1-2 years with hawthorn. Good, thin grassland strip along hedgerow with species including common knapweed, musk mallow, lady's bedstraw and rough grasses.

Habitat Description

This area has a large proportion of arable land in the eastern and northern section. Although arable land is a low biodiversity habitat there are a number of potentially important hedgerows and some mature trees with bat potential located within these fields. In the centre of the arable land there is a mixed plantation (7 & 8) that is surrounded by and contains semi-improved grassland that is of ecological significance. This area of mixed plantation and grassland provides important habitat for wildlife and would therefore require further investigation. There are numerous other areas of semi-improved and poor semi-improved grassland (1, 2, 3, 4, 5 & 6) that will need further surveying. A notable feature is the high number of pLWS/SINCs in the area that will need surveying against the LWS criteria. The River Arrow which is a Linear LWS/SINC runs through the western section and has important associated riparian habitat that will need further surveying. There are two ponds (10 & 11) that provide important wetland habitat for wildlife. The area includes the River Arrow Nature Reserve LNR managed by Warwickshire Wildlife Trust, which is important for several invertebrate species, including scarce beetles for the county.

Geological Description

This area is characterised by river terrace deposits, overlying Triassic Mercia Mudstone bedrock. Further details are available on the British Geological Survey's Stratford-upon-Avon Solid and Drift map (IGS 1974). There are no Local Geological Sites within this area. There would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

The site contains records for grass snake, slow worm, barn owl and the county rare plant of Rye Brome and a Hybrid Black poplar veteran tree. Near to the site there are additional records of brown hare, common frog and smooth newt.

Recommendations for Further Survey

The Linear LWS/SINC River Arrow SP05Li16z has been assessed using the specific River Linear Local Wildlife Site criteria and has been designated a Linear LWS/SINC including the tributaries. The River Arrow will need to be surveyed for water voles and otters, both desk top study for existing records and a site survey to establish current status.

The pLWS/SINCs Field at Alcester SP05U2, River Arrow Valley Nature Reserve LNR SP05Z2, Alcester Cemetery SP05Y and River Arrow, Riparian Woodland SP05Z1 will need to be surveyed against the LWS criteria between June and July.

The semi-improved and poor semi-improved grassland (1, 2, 3, 4, 5 & 6) should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites.

A botanical survey will be required for the small section of scrub and woodland and the mixed plantation (7, 8 & 9) between May – June, to determine the full biodiversity value of these habitats.

Further surveys for identified protected species of bat, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

The ponds within this area (10 & 11) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of these ponds will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European

Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The outcome of the LWS surveys will determine the appropriate actions needed for the habitats involved within these sites. It is likely that the potential Local Wildlife Sites will qualify for designation and therefore these sites will need appropriate buffering to ensure the protection of these county important sites.

The River Arrow (Linear LWS/SINC) is an important linear feature and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. The River Arrow is potential water vole and otter habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles or otters. A management plan for the river should be written and implemented to ensure future good management and enhancement of the habitat.

The areas of semi-improved and poor semi-improved grassland (1, 2, 3, 4, 5 & 6) should be retained and buffered to prevent impact from run off and changes to hydrology affecting these sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The small areas of scrub and woodland and the mixed plantation (7, 8 & 9) are of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 100 metres around the mixed plantation and 50 metres around the scrub and woodland. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the woodland or plantation it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Arden Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development/excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'North & River Arrow', part of Alcester, has a large proportion of low biodiversity value arable land, however other parts of the area are of high biodiversity value and even the arable land has some species rich, good quality hedgerows. There are numerous pLWS/SINCs that will need further survey especially as these sites and their surrounding areas contain the most significant ecological areas. One of the most important features is the Linear LWS/SINC River Arrow. The river and its associated riparian habitats are vital as a green corridor and should be buffered significantly to protect this aspect. The areas of semi-improved and poor semi-improved grassland, woodland, mixed plantation and the ponds should be protected from development. The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.5.2 East

Area: 64.4 hectares

Key Features

Linear LWS/SINC River Alne SP15Li15d
Large areas of semi-improved grassland
Broad-leaved semi-natural woodland
Multiple ponds
Good quality hedgerows

Key Target Notes

TN# SP15e27 Recently created pond. No marginal or aquatic vegetation visible.

TN# SP05z17 Rough unmanaged grassland dominated by false oat grass, cocksfoot and common couch with occasional red fescue, Yorkshire fog and soft brome. There is occasional creeping cinquefoil, common mouse-ear, creeping thistle and cow parsley.

TN# SP05z28 Laid hedgerow, to east of shaded track and paralleled hedgerow. Species include hedge woundwort, ivy, wood dock, wood avens and herb Robert. Two mature oaks in hedge.

TN# SP05z30 Large pond with emergent species including, on north side: great bulrush, with marginal species comprising rough grasses, bramble, spear and creeping thistle. South side is shaded by scrub and trees including hawthorn, sycamore, oak and elder. No visible aquatic vegetation due to murkiness.

TN# SP05z31 Semi-improved grassland of tall grasses and some willow saplings, including false oat-grass, Yorkshire fog and *Festuca* spp., and herbs including selfheal, smooth tare, bird's-foot-trefoil, common centaury, common ragwort, creeping buttercup, and creeping thistle and abundant white clover areas. Bristly oxtongue at edges. Good for butterflies (meadow brown and marbled white recorded) and bumblebees. Rabbit seen.

TN# SP05z73 Blackthorn dominated area of scrub with little ground flora, mainly bare soil. Lots of rabbit activity. Frequent lords-and-ladies, and occasional violet. Drinks bottles. With appropriate management, this could be improved and become excellent for wildlife.

Habitat Description

This area has a mix of improved grassland, arable and semi-improved grassland with the River Alne along the southern boundary and several ponds. The areas of poor semi-improved and semi-improved grassland (1 & 2) are significantly large with an area of scrub (4) and a large pond (7). Potentially grassland (2) will need a more detailed phase 2 botanical survey because it has a high biodiversity value. Grassland 1 has had a botanical survey as part of a planning application. The results of the consultants ecological survey suggest the semi-improved grassland (1) is not of significant ecological value. However the survey was not performed at the optimum time of year for grassland habitat. The adjoining semi-improved grassland (2) will need to be sufficiently buffered to retain its current ecological value. The section of scrub (4) within the semi-improved grassland area has been

recommended by the surveyors as having potential for biodiversity enhancement. This would only apply if the surrounding grassland were also retained with sympathetic management.

The areas of scrub (4), broadleaved semi-natural woodland (5) and broad-leaved plantation (6) will need to be surveyed further to determine their full value, however these habitats despite their small size still provide nesting, roosting and foraging habitats for wildlife. There are a total of five ponds (7, 8, 9, 10 & 11) within this area that have the potential to support protected species and will therefore need further investigation. There are several intact and potentially species rich hedgerows within this area that provide a good level of connectivity and therefore should be protected from development. The most notable feature is the Linear LWS/SINC River Alne. The river provides an excellent green corridor and should be protected from development. It is important that the river remains free from development that would impede on its ability to act as a green corridor.

Geological Description

This area is characterised by river terrace deposits, overlying Triassic Mercia Mudstone bedrock. It is likely that the Mercia Mudstone includes the local representative of the Late Triassic Arden Sandstone Formation. Further details are available on the British Geological Survey's Stratford-upon-Avon Solid and Drift map (IGS 1974). There are no Local Geological Sites within this area. There would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

There are badger records within this area. In the surrounding area are records of common frog, smooth newt, grass snake and bats (indeterminate species and pipistrelle sp.)

Recommendations for Further Survey

The Linear LWS/SINC River Alne has been assessed using the specific River Linear Local Wildlife Site criteria and has been designated a Linear LWS/SINC. The River Alne will need to be surveyed for water voles and otters, both desk top study for existing records and a site survey to establish current status.

The semi-improved grassland (2 & 3) should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites. A reptile and an invertebrate survey should be completed within these grasslands. Grassland (1) has already had a full botanical survey however it is recommended that this grassland should be re-surveyed at a more optimum time in the season. It is recommended that grassland (2) should have a detailed phase 2 botanical survey.

A botanical survey will be required for the small section of scrub and woodland and the plantation (4, 5 & 6) between May – June, to determine the full biodiversity value of these habitats.

Further surveys for identified protected species of bat, amphibians and reptiles will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

The ponds within this area (7, 8, 9, 10 & 11) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of these ponds will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The River Alne (Linear LWS/SINC) is an important linear feature and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. The River Alne is potential water vole and otter habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles or otters. A management plan for the river should be written and implemented to ensure future good management and enhancement of the habitat.

The areas of semi-improved grassland (2 & 3) should be retained and buffered to prevent impact from run off and changes to hydrology affecting these sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value. Although grassland site (1) has been found to not be of significant ecological value (previous survey in May 2009 commissioned as part of a planning application) it is recommended that grassland site (2) be sufficiently buffered to prevent degradation of the habitat from surrounding development and potential future land use.

The small areas of scrub and woodland and the plantation (4, 5 & 6) are of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around each site. This is to

prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the woodland or plantation it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Arden Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context. Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'East', part of Alcester, is a comparatively small area of 65 hectares that has an abundance of high biodiversity value habitats. One of the most important features is the Linear LWS/SINC River Alne. The river and its associated riparian habitats are vital as a green corridor and should be buffered significantly to protect this aspect. There are multiple hedgerows that have the potential to be species rich, quality hedgerows. The large areas of semi-improved grassland which is a decreasing habitat in Warwickshire should be protected via buffer zones and suitable management plans. The areas of semi-improved grassland, woodland, plantation and the ponds should be protected from development. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained. The bird surveys will inform retention of any particular arable fields.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.5.3 South

Area: 138.3 hectares

Key Features

Linear LWS/SINC River Alne SP15Li15d & SP05Li15y

Linear LWS/SINC River Arrow SP05Li16y

pLWS/SINC Disused Railway SP05W1

pLWS/SINC Flood Meadows at Oversley Mill SP15Y2

Semi-improved grassland and floodplain meadows

Species rich road verge

Mixed woodland

Broad-leaved plantation

Key Target Notes

TN# SP05y19 Roundabout which has been seeded with a wild flower mix includes abundant ox-eye daisy with wild carrot cornflower and occasional kidney vetch bird's-foot trefoil, agrimony, hop trefoil, bristly ox-tongue and yellow rattle. Grasses are sparse and include meadow grass spp. Crested dog's-tail, perennial rye-grass and red fescue.

TN# SP05y21 Semi-improved flood meadow grazed extremely short by horse and rabbit with patches of nettle hard rush and marsh thistle.

TN# SP05y23 Semi-improved flood meadow with frequent smooth meadow grass, cocksfoot and meadow foxtail with occasional false oat-grass. There is abundant creeping and meadow buttercup with frequent mouse-ear, red clover, hairy tare, black medick and patches of red and white campion cow parsley and hemlock.

TN# SP05y26 Poorly improved hay meadow with frequent soft brome with scattered cow parsley, hogweed, red clover and occasional nettle beaked hawks-beard, spear thistle and black medick.

TN# SP05y30 Unmanaged old flood meadow with abundant cocksfoot, false-oat grass and frequent smooth meadow grass and Yorkshire fog. Forbs include frequent red clover, black medick, germander speedwell, cut-leaved and dove's-foot crane's bill, creeping cinquefoil and occasional bush and common vetch and spotted medick.

TN# SP05y40 River Arrow. The river meanders a great deal at this point with good glide-riffle sequences with shingle side bars. Common club rush, reed sweet grass and yellow flag are scattered along the banks with areas of dense nettle.

TN# SP15d2 Appears to be a group of three small improved meadows with ridge and furrow. However they had been recently cut at the time of survey and would benefit from another visit earlier in the season.

TN# SP15d3 A small triangular patch of semi-improved grassland with a large copper beech. There is abundant false oat grass and cocksfoot with frequent black knapweed, agrimony, red clover, lady's bedstraw and occasional field horsetail and burnet saxifrage. A path leading off to the north-west to the river is hedged by dogwood, ash, field maple and hawthorn.

Habitat Description

This area is a complex mix of habitats including improved grassland and arable in addition to high biodiversity areas of semi-improved grassland and flood-plain meadows. The main features of this area are the two rivers both of which have recently been designated as Linear LWS/SINCs. These rivers provide a network of high biodiversity linkages connecting the valuable habitats. The River Arrow is known to support otter *Lutra lutra* and white clawed crayfish *Austropotamobius pallipes* are known to be present throughout Redditch and occur just into Warwickshire. White clawed crayfish are becoming increasingly rare and the population in the River Arrow form an important isolated population remote from any known invasive signal crayfish. Provided conditions in the River Arrow continue to improve white clawed crayfish may expand their range further into Warwickshire. (Matthews, 2009). The same statements apply to the River Alne. The River Alne also supports brown trout *Salmo trutta*, bullhead *Cottus gobio* (European protected species) and eel *Anguilla anguilla* (increasingly rare species).

There are numerous flood meadows along the lengths of both rivers varying in quality and all the meadows that have been highlighted (1, 3 & 4) that are not already part of a pLWS/SINC will need further survey. Flood meadows are an important habitat that support a rich community of wetland specific wildlife and should be protected from development. There is a species rich road verge and a seeded roundabout which could enhance the biodiversity of the area with sympathetic management. There are two pLWS/SINCs (Disused Railway SP05W1 & Flood Meadows at Oversley Mill SP15Y2) that will both need to be surveyed against the LWS criteria. The small sections of plantation and woodland (5, 6, 7 & 8) will need further surveys, however despite their small size they provide nesting, roosting and foraging habitat for wildlife and add to the diversity of wildlife habitat in the area.

Geological Description

This area is characterised by river terrace deposits, overlying Triassic Mercia Mudstone bedrock. Further details are available on the British Geological Survey's Stratford-upon-Avon Solid and Drift map (IGS 1974). There are no Local Geological Sites recorded within this area. There would be potential for geological recording and establishment of new records from temporary deep excavations within this area.

Protected Species

In this area there are records of otter on the River Arrow, bats (common and soprano pipistrelle), Oak and Field Maple veteran trees, county rare plants Large-flowered hemp nettle (*Galeopsis speciosa*), Small-flowered buttercup (*Ranunculus parviflorus*), Bur-Chervil (*Anthriscus caucalis*). Just outside of the area are records of commutable species badger, slow-worm, grass snake, common frog, smooth newt, common pipistrelle and the county rare plant of Field Garlic.

Recommendations for Further Survey

The Linear LWS/SINC River Arrow (SP05Li16y) and the Linear LWS/SINC River Alne (SP15Li15d & SP05Li15y) have been assessed using the specific River Linear Local Wildlife Site criteria and have been designated Linear LWS/SINCs. The River Arrow and River Alne will need to be surveyed for water voles and otters, both desk top study for existing records and site surveys to establish their current status.

The pLWS/SINCs Disused Railway SP05W1 and Flood Meadows at Oversley Mill SP15Y2 will need to be surveyed against the LWS criteria between June and July.

The semi-improved grassland (1, 2, 3 & 4) that is not already part of a pLWS/SINC should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites. A reptile and an invertebrate survey should be completed within these grasslands due to the presence of existing reptile records within a commutable area.

A botanical survey will be required for the small section of mixed woodland and plantations (5, 6, 7 & 8) between May – June, to determine the full biodiversity value of these habitats.

Further surveys for identified protected species of bat, otter, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerow.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The outcome of the LWS surveys will determine the appropriate actions needed for the habitats involved within these sites. It is likely that the potential Local Wildlife Sites will qualify for designation and therefore these sites will need appropriate buffering to ensure the protection of these county important sites.

The River Arrow and River Alne (Linear LWS/SINCs) are important linear features and should be protected by a suitable buffer zone implemented either side of each watercourse to prevent direct or indirect impact on either site. The River Arrow and the River Alne are potential water vole and otter habitats and need to be protected. The buffer zone for these habitats is therefore dependent on the presence or absence of water voles or otters. A management plan for the rivers should be written and implemented to ensure future good management and enhancement of these habitats.

The areas of semi-improved and poor semi-improved grassland (1, 2, 3 & 4) should be retained and buffered to prevent impact from run off and changes to hydrology affecting these sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The small areas of mixed woodland, plantations and semi-natural woodland (5, 6, 7 & 8) are of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around each site. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the woodland or plantation it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Arden Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development/excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'South', part of Alcester, is a mix of high biodiversity value areas interspersed with lower biodiversity areas (arable, improved grassland and amenity grassland). There are two pLWS/SINCs that will all need further survey especially

as these sites and their surrounding areas contain the most significant ecological areas. The most important features are the Linear LWS/SINCs River Arrow and River Alne. These rivers and their associated riparian habitats are vital green corridors and should be buffered significantly to protect the level of connectivity they provide. The areas of semi-improved grassland, woodlands and plantations should be protected from development. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained. The results of bird surveys will inform retention of any particular arable fields.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.5.4 West

Area: 98.0 hectares

Key Features

Semi-improved grassland

Species rich road verge

Old orchard – potential pLWS/SINC (excellent protected bird species habitat)

Willow carr

Watercourse/brook

Broad-leaved plantation

Ponds

Key Target Notes

TN# SP05y1 Area of willow carr with alder and occasional ash and oak over nettle and cow parsley. The adjacent stream contains common reed, plicate sweet grass and brooklime.

TN# SP05y3 A46 verge. Semi-improved grassland made up of meadow grass spp, red fescue, cocksfoot, false oat-grass and soft brome. The area may have been seeded with wild flower mix with species such as occasional corn cockle, ox-eye daisy and meadow crane's bill as well as common vetch, black medick, cut-leaved crane's bill, ragwort and beaked hawks-beard. A recent plantation separates the verge from the adjacent fields containing blackthorn, hawthorn, field maple, hazel and occasional guelder rose, dog rose, rowan, oak, birch and dogwood.

TN# SP05y4 A subdivided semi-improved pasture recently grazed by horses including meadow foxtail, cocksfoot with occasional sweet vernal grass and patches of soft brome, common bent and red fescue. Forbs include bulbous buttercup, red clover, dove's-foot crane's bill, and patches of nettle and creeping thistle.

TN# SP05y8 Unmanaged grassland with false oat-grass, cocksfoot and Yorkshire fog and tall ruderal species such as cow parsley nettle and occasional hemlock and hogweed.

TN# SP05y11 potential pLWS/SINC Abandoned orchard over tall ruderal with elder and hawthorn scrub. Owner reports breeding turtle doves (2008), plus cuckoo, bullfinch, song thrush plus many other species. Recommend as a pLWS/SINC on this basis. Habitat is dense scrub and tall ruderal, mainly bramble, nettle, hedge bindweed, elder, hawthorn, pear, elm, willow, ivy, bittersweet, lords and ladies. Not accessible due to dense bramble and its undisturbed quality therefore of importance to wildlife. Hedge along road is tall, dense and bushy.

TN# SP05y15 Unmanaged grassland dominated by false oat-grass, cocksfoot, meadow foxtail and rough meadow grass with patches of nettle cow parsley and hogweed.

TN# SP05t18 Newly planted poplar on the site of previously felled woodland. Tall herbs and rough grassland can be found beneath, cow parsley, red campion, meadowsweet, occasional spear thistle, wood avens and hedge woundwort. The site is bounded by a stream to the north and an irrigation channel to the south with common reed, brooklime and sweet grass sp. A strip of willow connects the plantation to the A46 with nettle and cow parsley beneath.

Habitat Description

This area is a complex mix of habitats including multiple semi-improved grassland grazing pasture. The A46 runs centrally from north to south, which despite creating a barrier for wildlife throughout some of this area it does have species rich road verges that with continued sensitive management enhance the areas biodiversity. The multiple areas of semi-improved grassland (1, 2, 3, 4, 5, 6, 7, 8, 9 & 10) will need further surveying as they have only partially been surveyed due to issues with access and livestock, therefore the actual proportion of quality grassland in this section could decrease or increase. There is an area of old traditional orchard which is largely scrubbed over (14) in the eastern section that has been highlighted as having the potential to become a Local Wildlife Site on the basis of the suitability for threatened breeding bird species. Records of turtle doves, bullfinch and cuckoo using this site suggest it could be an important undisturbed habitat for birds and other wildlife. Traditional orchard is a decreasing BAP habitat, therefore this important habitat feature needs protection by becoming a Local Wildlife Site. The ponds (15 & 16) within this area provide habitat for a range of wildlife and have the potential to support protected species and should therefore be subjected to further surveys. There is a small brook in the western section which is an important linear habitat, enhanced by the presence of the associated willow carr (13) a decreasing habitat in Warwickshire. The plantation just to the north of the willow carr (11) and the small section of woodland in the south (12) are also important for wildlife as they provide roosting, nesting and foraging habitat.

Geological Description

This area is characterised by river terrace deposits, overlying Triassic Mercia Mudstone bedrock. Further details are available on the British Geological Survey's Stratford-upon-Avon Solid and Drift map (IGS 1974). There are no Local Geological Sites recorded from this area. There would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

There are records of badger, slow-worm, grass snake, common frog and county rare plant Field Garlic (*Allium oleraceum*) within the area. Just outside the area are further records of grass snake, slow-worm, an indeterminate bat species, otter and brown hare.

Recommendations for Further Survey

The semi-improved grassland (1, 2, 3, 4, 5, 6, 7, 8, 9 & 10) should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites. A reptile and an invertebrate survey should be completed within these grasslands due to the presence of existing reptile records in the area. Similar surveys should be carried out along the A46 road verges.

The area of old orchard (14) will need to be surveyed against the LWS criteria between May and June. This site requires further survey work for bird species including current desktop records and a breeding bird survey. A number of

threatened bird species such as turtle doves are said to be breeding on the site and this would result in the site being a county significant site.

The brook will need to be surveyed for water voles, both desk top study for existing records and site surveys to establish current status.

A botanical survey will be required for the small section of plantation, woodland and willow carr (11, 12 & 13) between May – June, to determine the full biodiversity value of these habitats.

The ponds within this area (15 & 16) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of these ponds will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

Further surveys for identified protected species of bat, otter, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The areas of semi-improved grassland (1, 2, 3, 4, 5, 6, 7, 8, 9 & 10) should be retained and buffered, subject to the outcome of detailed site assessments, to prevent impact from run off and changes to hydrology affecting these sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value. Suitable management should also be implemented on the species rich A46 road verges to maintain their levels of biodiversity, this should involve the control of scrub encroachment.

The outcome of the LWS survey and bird surveys will determine the appropriate actions needed for the habitats involved within the area of old orchard (14). If this

potential Local Wildlife Site qualifies for designation on the basis of breeding bird species then the site will need appropriate buffering to ensure the protection of this county important site.

The brook is an important linear feature and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. The brook is potential water vole habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles. A management plan for the brook should be written and implemented to ensure future good management and enhancement of this habitat.

The small areas of woodland, plantation and willow carr (11, 12 & 13) are of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around each site. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the woodland, plantation or willow carr it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Arden Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development/excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'West', part of Alcester, is a mix of high biodiversity value areas interspersed with lower biodiversity areas (arable and improved grassland). There is a potential pLWS/SINC that require further botanical and bird surveys and protection from development. The loss of this site (14) would be a significant biodiversity loss for the area. The brook along the western edge is an important linear feature and should be protected from development. The brook and its associated riparian

habitats are ecologically significant and enhance the biodiversity and connectivity in the area. The multiple areas of semi-improved grassland, woodlands and the plantations should be protected from development subject to the outcome of detailed site assessments. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained. The results of bird surveys will inform retention of any particular arable fields.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhanced before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.6 Studley

3.6.1 North-East

Area: 75.3 hectares

Key Features

Linear LWS/SINC River Arrow SP06Li16s
pLWS/SINC Wood at Studley Bridge SP06S3
pLWS/SINC St Mary's Church and Cemetery, Studley SP06W3
Semi-improved grassland
Broad-leaved plantation
Pond
Intact hedgerows

Key Target Notes

TN# SP06s5 Poor semi-improved grassland dominated by false oat-grass and horse grazed. Tussocky, semi-improved neutral grassland with occasional meadow vetchling, meadow foxtail, cocksfoot, smooth rush, Timothy, false oat-grass, and rare lesser stitchwort, bird's-foot-trefoil, tufted hair-grass and locally abundant hard rush, willowherbs and umbellifers (unconfirmed).

TN# SP06s7 Area of mature willow, coppiced and pollarded some time in the distant past. Beneath is occasional elder and hazel scrub with a ground layer dominated by nettles.

TN# SP06s37 Short semi-improved grassland road verge containing abundant creeping cinquefoil, frequent common knapweed, red fescue, bird's-foot-trefoil, false oat-grass, and rare oxeye daisy. A small parcel of semi-natural broad-leaved woodland exists on the southeast end of the verge.

TN# SP06s41 Intact hedge with running water under with good water level and banks. Vegetation/emergent including brooklime, bulrush, wild angelica and gipsywort.

TN# SP06w1 River Arrow. There is very little in the way of aquatic vegetation along this stretch of the river, other than filamentous algae, occasional water crowfoot and small patches of reed canary-grass and sweet grass sp. around meanders. The bank is grazed right down to the water in many areas and poaching by animals is common, leaving relatively sparse and scattered patches of tall herb and mainly hawthorn scrub with occasional willow pollard. There is some evidence of present water vole activity. The river retains many glide-run-riffle sequences and does not appear to have been recently re-sectioned or deepened.

Habitat Description

The area is predominantly comprised of improved grassland, arable land and amenity grassland which are low biodiversity habitats. The River Arrow, a Linear LWS/SINC flows along the western boundary providing an important habitat as a green corridor for wildlife. The River Arrow is known to support otter *Lutra lutra* and white clawed crayfish *Austropotamobius pallipes* are also known to be present

throughout Redditch (approximately 5 miles from Studley) and occur just into Warwickshire (Giles, 2010). Many other species of significance for Warwickshire are found in the River Arrow, therefore this is an essential feature for biodiversity within this area. There are two pLWS/SINCs (Wood at Studley Bridge SP06S3 and St Mary's Church and Cemetery SP06W3) within this area that will need surveying against the LWS criteria at an appropriate time of year. There are two areas of semi-improved grassland (1 & 2) that provide an important habitat that is decreasing in Warwickshire. There is limited semi-improved grassland within this area and the loss of these two grasslands would significantly reduce the overall biodiversity of the area. There is a strip of broad leaved plantation (3) that despite being isolated within an arable field still provides a resource for wildlife for foraging, nesting and roosting. The hedgerows linking to this plantation should be retained and enhanced to ensure some connectivity to the wider landscape and to the area of willows SP06s7. There are a good number of intact hedgerows (particularly the one mentioned in target note SP06s41) that have potential to be valuable features in the landscape. The pond in the south (4) provides important wetland habitat for the surrounding wildlife.

Geological Description

This area is dominated by river terrace deposits and alluvium, overlying Triassic Mercia Mudstone bedrock. Marginal to the area, the River Arrow Local Geological Site is a geomorphological site, selected for its fluvial depositional and erosional features. Further details of local geology are available on the British Geological Survey's Stratford-upon-Avon Solid and Drift map (IGS 1974). There would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

In the area are records of otter and brown hare. There are also records of Stinking Hellebore (*Helleborus foetidus*) and black poplar within the area. Just outside of the area are records of commutable species of bat including Daubenton's and undetermined species and badger records.

Recommendations for Further Survey

The Linear LWS/SINC River Arrow SP06Li16w has been assessed using the specific River Linear Local Wildlife Site criteria and is now designated a Linear Local Wildlife Site. The River Arrow will need to be surveyed for water voles, both desk top study for existing records and a site survey to establish current status.

The pLWS/SINC Wood at Studley Bridge SP06S3 will need to be surveyed against the LWS criteria between May and June. The pLWS/SINC St Mary's Church and Cemetery, Studley SP06W3 will also need to be surveyed against the LWS criteria between June and July.

The semi-improved grassland (1 & 2) should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites. A reptile and an invertebrate survey should be completed within grassland 1.

A botanical survey will be required for the strip of broad leaved plantation (3) between May – June, to determine the full biodiversity value of this habitat.

The pond within this area (4) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of the pond will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

Further surveys for identified protected species of bat, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, plantation and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The River Arrow (LWS/SINC) is an important linear feature and must be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. The River Arrow is potential water vole and existing otter habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles and presence of otters. A management plan for the river should be written and implemented to ensure future good management and enhancement of the habitat.

The outcome of the LWS surveys will determine the appropriate actions needed for the habitats involved within the existing pLWS/SINC (Wood at Studley Bridge SP06S3 and St Mary's Church and Cemetery, Studley SP06W3). If these potential Local Wildlife Sites qualify for designation then each site will need appropriate buffering to ensure the protection of these county important sites.

The areas of semi-improved grassland (1 & 2) should be retained and buffered to prevent impact from run off and changes to hydrology affecting these sites. A

management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The strip of plantation (3) is of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the site. This is to prevent damage to the site from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the plantation it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Arden Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development/excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites. Additionally, Warwickshire Museum's geologist should be consulted over any engineering/construction schemes that might alter local natural fluvial processes

Conclusion

The area named 'North East', part of Studley, is predominantly improved grassland and arable land. The areas of most significant ecological value are located along the river corridor and must be protected. There are two pLWS/SINCs (Wood at Studley Bridge SP06S3 and St Mary's Church and Cemetery SP06W3) and two areas of semi-improved grassland that require protection and buffering from development. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained. The results of bird surveys will inform retention of any particular arable fields.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.6.2 East

Area: 106.3 hectares

Key Features

Linear LWS/SINC River Arrow SP06Li16w

Local Geological Site [RIGS] River Arrow, Studley

Poor semi-improved grassland

Two ponds

Key Target Notes

TN# SP06r17 Old orchard with few trees left, some dead standing, with unmanaged semi-improved grassland beneath. Coarse grasses dominate, especially false oat grass and cocksfoot, and there are extensive areas of nettle. New amenity grassland. Short cut perennial rye-grass. Private garden.

TN# SP06r18 Poor semi-improved grassland cut/grazed short. Occasional white clover, red fescue, creeping buttercup, ribwort plantain, red clover, cocksfoot, bird's-foot-trefoil. One very old oak at south edge of field.

TN# SP06r21 Deep standing water with one oak partly shading it. Smooth rush patches and locally abundant celery-leaved buttercup on banks. Also rare brooklime. One long anthill on south bank.

TN# SP06r22 Pond with clear water, heavily shaded by mature oak, young willows, hawthorn & blackthorn scrub, and young ash, while water lily is found frequent in the centre of the pond. Cocksfoot, meadow grass sp., Timothy, crested dog's-tail, are found occasionally on banks with one patch of smooth rush.

Habitat Description

This area of land is dominated by improved grassland and arable land with very few hedgerows in the northern section resulting in the area generally having a low biodiversity value. The River Arrow (Linear LWS/SINC) flows along the northern and north eastern boundary of the area which is of significant wildlife value. There is a small section of poor semi-improved grassland (1) in the north that is a potentially valuable grassland habitat. There are two ponds (3 & 4) that are valuable for wildlife and have the potential to support protected species. There are only limited hedgerows within this area however these are important habitat features within this arable landscape. There is a very small section of plantation (2) that has value for nesting, foraging and roosting purposes.

Geological Description

This area is dominated by river terrace deposits and alluvium, overlying Triassic Mercia Mudstone bedrock. Within the area, the River Arrow LGS is a geomorphological site, selected for its fluvial depositional and erosional features. Further details of local geology are available on the British Geological Survey's Redditch Solid and Drift map (IGS 1989). There would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

Within the area are records of badger, barn owl and brown hare. A county rare plant, Fine-leaved Water-dropwort (*Oenanthe aquatica*) and veteran oaks have been recorded in this area. There is a black poplar record on the boundary of the area. Bat records including Daubenton's, brown long-eared, common pipistrelle, noctule, Leisler's and whiskered bat, otter, brown hare, common frog, common toad and smooth newt lie just outside of the area.

Recommendations for Further Survey

The Linear LWS/SINC River Arrow SP06Li16w has been assessed using the specific River Linear Local Wildlife Site criteria and is now designated a Linear Local Wildlife Site. The River Arrow will need to be surveyed for water voles, both desk top study for existing records and a site survey to establish current status.

The two ponds (3 & 4) within this area will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of the pond will also need to be undertaken to ensure any development will not have any adverse affect on the water levels or water quality.

The poor semi-improved grassland (1) should have a full botanical survey between June and July to fully analyse the biodiversity potential of this site.

A botanical survey will be required for the section of plantation (2) between May – June, to determine the full biodiversity value of this habitat.

Further surveys for identified protected species of bat, otter, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The River Arrow (LWS/SINC) is an important linear feature and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. The River Arrow is potential water vole and otter habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles or otters. A management plan for the river should be written and implemented to ensure future good management and enhancement of the habitat.

The area of poor semi-improved grassland (1) should be retained and buffered to prevent impact from run off and changes to hydrology affecting the site. A management plan should be written and implemented for this grassland to maintain its biodiversity value.

The small section of plantation is of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the site. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the woodland and in the plantation, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Arden Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites. Additionally, Warwickshire Museum's geologist should be consulted over any engineering / construction scheme that might affect natural fluvial processes..

Conclusion

The area named 'East', part of Studley, has a limited biodiversity value due to the proportion of improved grassland and arable. Any development within this area should avoid the poor semi-improved grassland. It is essential that the River Arrow is protected and buffered sufficiently. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained. Results from bird surveys will inform retention of particular fields.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.6.3 West

Area: 120.8 hectares

Key Features

pLWS/SINC Dismantled Railway SP06L2

Potential pLWS/SINC grassland (8)

Numerous areas of poor semi-improved and semi-improved grassland

Strips of semi-natural broad-leaved woodland

Two ponds

Sections of plantation

Key Target Notes

TN# SP06I8 Dismantled railway colonised by tall grasses and a little encroaching hawthorn, blackthorn and gorse scrub. Grasses present include false oat grass, perennial rye grass, crested dog's-tail, Yorkshire fog, cocksfoot, creeping bent, Timothy and occasional tufted hair grass. There are many forbs, including frequent creeping thistle, ragwort, black medick, upright hedge parsley, hairy tare, bush vetch, red and white clover, red bartsia, ribwort plantain, ribbed melilot, ox-eye daisy, field bindweed, perforate St. John's-wort, meadow vetchling, common cat's-ear, hogweed and hedge woundwort. Occurring less often are hop trefoil, bird's-foot-trefoil, nettle, wild carrot, spear thistle, hard rush, meadowsweet, self-heal, great willowherb, greater knapweed and red campion. Maple-leaved goosefoot and garlic mustard are localised. This stretch is bordered by tall hedges of common hawthorn, elder, dog rose, blackthorn, goat willow and oak and ash standards. Several butterflies were present, including meadow brown, peacock, brimstone, small skipper and common blue.

TN# SP06r2 Poor semi-improved grassland with frequent common bent, meadow foxtail, false oat grass and meadow grass spp. with occasional cocksfoot. Forbs include bulbous buttercup, dove's-foot crane's-bill, ribwort plantain and occasional black knapweed. The path to the south-east is lined with elder and hawthorn scrub and young elm trees. The understorey and ground flora consists of bramble, nettle, ivy, rough meadow grass, cocksfoot and occasional foxglove. No access. Viewed from road. Abundant false oat-grass, rare common knapweed.

TN# SP06r3 Semi-improved pasture with abundant creeping bent, meadow grass spp. and frequent crested dog's-tail and meadow foxtail. There are patches of cocksfoot, false oat-grass and red fescue. Bulbous and meadow buttercup are present throughout with patchy sorrel, mouse-ear hawkweed, creeping thistle and common mouse-ear and scattered creeping thistle and field speedwell. Poor semi-improved grassland grazed by cows. Occasional white clover, cocksfoot, crested dog's-tail, and rare bird's-foot-trefoil, common sorrel, and lesser stitchwort. Coarse grass species dominated.

TN# SP06r4 Greenway footpath lined by oak and hawthorn hedges with patches of dense hawthorn and elder scrub in places and a ground flora of ground ivy, nipplewort, cocksfoot, bramble, herb Robert and occasional mallow, meadow crane's-bill and bluebell. Broad-leaved semi-natural woodland with a canopy of oak

and an understorey of blackthorn, elder, hawthorn, elm and locally abundant bramble scrub. Ground flora with occasional bluebell, common figwort, cocksfoot, ivy and rare red campion. Locally abundant nettles are found.

TN# SP06r8 No access but appears to be dominated by coarse grasses such as false oat-grass and cocksfoot with scattered tall ruderal species such as nettle, creeping thistle and broad-leaved dock.

TN# SP06r10 Poor horse grazed semi-improved pasture with frequent common bent, smooth meadow grass, bulbous buttercup and scattered cow parsley. Semi-improved neutral grassland with frequent ribwort plantain, yarrow, red fescue, false oat-grass, meadow grass sp., occasional common bird's-foot-trefoil and rare common knapweed, lesser stitchwort and smooth rush.

TN# SP06r23 Broad-leaved semi-natural woodland with oak canopy and a scrub understorey of hawthorn, elder, blackthorn and a ground flora of abundant common nettle, occasional lords-and-ladies and rare bluebells.

TN# SP06r24 Tussocky poor semi-improved grassland dominated by coarse grasses. Abundant false oat-grass, cocksfoot, occasional Timothy, teasel, musk mallow, ragwort, and frequent throughout creeping thistle, rare common knapweed, harebell and bird's-foot-trefoil are found. Butterflies use the site, including gatekeeper.

TN# SP06r25 Dense scrub which is gradually turning to woodland. A few tall oak trees and silver birches. Dominant species of scrub hawthorn and blackthorn, frequent bramble and rare holly. Ground flora with frequent cleavers, bittersweet, and occasional red campion, creeping buttercup, broad-leaved dock and willowherb. Two wet areas within strip probably forming several ponds. These contain large patches of smooth rush. One is covered with duckweed and at the other one small patch of lesser spearwort is found. A tall field maple coppice exists within the strip with honeysuckle on.

TN# SP06r26 Pond surrounded by dense scrub of elder, hawthorn, blackthorn and a standard ash. Tall ruderal surrounds this: creeping thistle, thistles, Creeping buttercup, white clover, bird's-foot-trefoil.

TN# SP06r27 Uncut poor semi-improved grassland by pub with abundant false oat-grass, frequent perennial rye-grass, white clover, meadow grass sp., and frequent creeping thistle.

TN# SP06r31 Species rich, semi-improved grassland. Should be considered as a potential LWS. Frequent ribwort plantain, common knapweed, false oat-grass, white clover, red clover, cocksfoot, creeping thistle, occasional common sorrel, meadow vetchling, creeping buttercup, self-heal, creeping cinquefoil, lesser stitchwort, tufted vetch, hogweed, red fescue, yarrow, crested dog's-tail. rare yellow rattle and adder's tongue fern are found. Bramble scrub surrounds the field.

Habitat Description

This area has multiple high biodiversity value habitats interspersed amongst lower biodiversity areas (improved grassland and arable). The areas of highest biodiversity value are the semi-improved and poor semi-improved grassland habitats (1, 2, 3, 4, 5, 6, 7 & 8). These areas of grassland will need further surveying and grassland number 8 has been identified as a potential pLWS/SINC and will therefore need surveying against the LWS criteria. There is a pLWS/SINC disused railway (Dismantled Railway SP06L2) that will also need surveying against the LWS criteria.

The railway is an important linear feature that has a diversity of plant species and provides a green corridor for wildlife. There are strips of semi-natural broad-leaved woodland (9 & 10) that are important habitat for many species. The areas of broad-leaved plantation (11 & 12) despite their small size provide roosting, nesting and foraging habitat for many species. Two ponds (13 & 14) are located within this area that are an important source of standing water for the surrounding wildlife.

Geological Description

This area is characterised by Mercia Mudstone bedrock outcrop and a local cover of Recent alluvium. There are no Local Geological Sites recorded from this area. Further details of local geology are available on the British Geological Survey's Redditch Solid and Drift map (IGS 1989). There would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

There is a badger record within the area. Just outside of the area are commutable species of bats, great crested newt, slow-worm, common frog, common toad, smooth newt, barn owl, brown hare, UK BAP butterfly White-letter Hairstreak, White Admiral and Small Heath plus county rare plants of fine-leaved water dropwort, mousetail, rye brome and dropwort.

Recommendations for Further Survey

The semi-improved and poor semi-improved grassland (1, 2, 3, 4, 5, 6, 7 & 8) should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites. A reptile and an invertebrate survey should be completed within these grasslands due to the presence of existing reptile records within a commutable location.

Grassland number 8 (TN# SP06r31) will need to be surveyed against the LWS criteria between June and July. The disused railway (pLWS/SINC Dismantled Railway SP06L2) will also need to be surveyed against the LWS criteria between June and July.

A botanical survey will be required for the small strips of semi-natural woodland and the sections of plantation (9, 10, 11 & 12) between May – June, to determine the full biodiversity value of these habitats.

The ponds within this area (13 & 14) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of these ponds will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

Further surveys for identified protected species of bat, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to

be surveyed and assessed for usage including that of hibernating, commuting and foraging.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The areas of semi-improved grassland (1, 2, 3, 4, 5, 6, 7 & 8) should be retained and buffered to prevent impact from run off and changes to hydrology affecting these sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The outcome of the LWS surveys will determine the appropriate actions needed for the habitats involved within the existing pLWS/SINC (Dismantled Railway SP06L2) and the proposed new pLWS/SINC grassland (8). If these potential Local Wildlife Sites qualify for designation then each site will need appropriate buffering to ensure the protection of these county important sites.

The small strip of woodland and the sections of plantation (9, 10, 11 & 12) are of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around each site. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the woodland or plantation it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Arden Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context. The connectivity through the area provided by the existing hedgerows should be retained.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'West', part of Studley, is a mix of high biodiversity value areas interspersed with lower biodiversity areas (arable and improved grassland). There is a potential pLWS/SINC (8) and a dismantled railway (pLWS/SINC) that will all need further botanical surveys. The multiple areas of semi-improved and poor semi-improved grassland and the woodlands and plantations should be protected from development. The results of bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.6.4 North

Area: 127.7 hectares

Key Features

Linear LWS/SINC River Arrow SP06Li16s

pLWS/SINC Fields North of Studley SP06S1

pLWS/SINC Brickyard Lane SP06R2

pLWS/SINC New Coppice Wood and Fields at Dogtail End SP06L3

pLWS/SINC Rough Hill Wood SSSI SP06L5

SSSI Rough Hill & Wirehill Woods

Multiple areas (significant proportion of area) of species rich semi-improved grassland

Multiple areas of poor semi-improved grassland

Plantation

Ponds

Allotments

Key Target Notes

TN# SP06r16 Tussocky semi-improved neutral grassland dominated by false oat-grass, with frequent ragwort, Timothy, thistles, field bindweed, occasional meadow vetchling, creeping cinquefoil, red fescue and lesser stitchwort.

TN# SP06s4 Poor semi-improved grassland grazed by cows. Occasional meadow foxtail, abundant Yorkshire fog, occasional false fox sedge, meadow grass sp., cocksfoot, rare crested dog's-tail, and very rare bird's-foot-trefoil. Large patches of hard rush throughout the field.

TN# SP06s9 An area of good semi-improved grassland on a bowl shaped island surrounded by dense hawthorn and black thorn scrub, with frequent snowberry, dog rose and bramble. The edges of the bowl contain abundant rough meadow grass, ribwort plantain and creeping cinquefoil with occasional bulbous buttercup, red bartsia, black medick, ox-eye daisy, crested dog's-tail, hoary plantain and self-heal. The central depression is poorly drained with a reinforced channel running across the middle and contains frequent cocksfoot, false oat-grass, Yorkshire fog, patches of black knapweed, red clover and occasional tufted hair grass, common sedge, soft rush and hogweed. Broad-leaved plantation with very dense understorey. Canopy of ash mainly with some alder, and understorey with frequent hawthorn, blackthorn and a few sycamores. Ground flora with frequent common nettle, creeping cinquefoil, wood avens, ground ivy, garlic mustard and frequent ivy in places. Also rare fern and dead wood is frequent throughout.

TN# SP06s13 Still semi-improved grassland, however fine herbs are not abundant. There is frequent red fescue, frequent field bindweed. However, bird's-foot-trefoil, meadow vetchling, common knapweed, lesser stitchwort are all found rare. The grassland is more species towards the ditch and linear scrub. There is locally abundant tufted hair-grass and frequent sweet vernal at the southwest corner of the field.

TN# SP06s14 Semi-improved neutral grassland with abundant creeping buttercup, frequent bird's-foot-trefoil, meadow buttercup, rare common knapweed, lesser

stitchwort. Grassland is very wet in places where smooth rush is found abundant with rare hard rush. Also rare tufted vetch is found and locally frequent white dead-nettle.

TN# SP06s16 Semi-improved grassland, similar field of sp06s13, but more species rich. Abundant creeping buttercup, frequent cocksfoot, false oat-grass, bent spp., and occasional meadow vetchling, Timothy, sweet vernal grass, ragwort, smooth rush, Yorkshire fog and rosebay willowherb. Also rare common knapweed, creeping cinquefoil, and locally frequent tufted vetch, tufted hair-grass, and lesser stitchwort.

TN# SP06s18 Tussocky semi-improved neutral grassland dominated by false oat-grass, with frequent Timothy, meadow grass sp., cocksfoot, perennial rye-grass, and occasional mugwort, creeping buttercup, ragwort, field bindweed, crested dog's-tail, red fescue, rare meadow vetchling, and rare bird's-foot-trefoil.

TN# SP06s19 Semi-improved neutral grassland used for recreation. Dominant false oat-grass, frequent creeping thistle, bramble, occasional common knapweed, ragwort, Timothy, creeping cinquefoil, meadow foxtail, common nettle, common sorrel, locally frequent rosebay willowherb, and rare bird's-foot-trefoil, meadow vetchling, false fox sedge, lesser stitchwort, and oxeye daisy. This field is a potential LWS.

TN# SP06s23 Semi-improved neutral grassland with frequent common knapweed, false oat-grass, creeping buttercup, and occasional meadow vetchling, broadleaved dock, hard rush, smooth rush, meadow foxtail, bent spp., ragwort, self-heal, yarrow, common mouse-ear, mugwort, hedge woundwort, cut-leaved crane's-bill, cocksfoot, lesser stitchwort. Extensive patches of tall ruderals are found throughout with species including common nettle, creeping and spear thistle, and willowherbs.

TN# SP06s29 Poor semi-improved grassland of abundant creeping buttercup, creeping thistle, frequent meadow grass sp., Timothy, Yorkshire fog, and occasional common mouse-ear. Also locally frequent lesser stitchwort. Grassland is used by butterflies: ringlet and meadow brown seen.

TN# SP06s31 Semi-improved neutral grassland with frequent creeping cinquefoil, crested dog's-tail, Yorkshire fog, false oat-grass, cocksfoot and occasional self-heal, cut-leaved crane's-bill, red clover, white clover, ragwort, Timothy, broadleaved dock and rare lesser stitchwort, meadow vetchling, bird's-foot trefoil, common knapweed, red fescue and black medick.

TN# SP06s32 Poor semi-improved grassland grazed by cows. Abundant Yorkshire fog, occasional meadow buttercup, red clover perennial rye-grass, rare meadow vetchling, tufted hair-grass, sweet vernal grass, and locally frequent bird's-foot-trefoil and lesser stitchwort. Grassland is very short, grazed in parts, and there is considerable nutrient input.

TN# SP06s35 Poor semi-improved neutral grassland which is herb rich. Abundant red clover, frequent self-heal, bird's-foot-trefoil, creeping buttercup, ribwort plantain, bent spp., crested dog's-tail, and rare common centaury, lesser stitchwort, and locally frequent jointed rush.

TN# SP06s42 Poor semi-improved grassland with frequent ribwort plantain, occasional self-heal, ragwort, crested dog's-tail, creeping buttercup, and rare overall bird's-foot-trefoil.

TN# SP06s43 Semi-improved neutral grassland grazed by horses. Frequent creeping buttercup, common knapweed, ribwort plantain, red bartsia, white clover,

and occasional ragwort, broad-leaved dock, yarrow, self-heal, and rare bird's-foot-trefoil.

TN# SP06s44 Semi-improved neutral grassland with frequent creeping buttercup, bird's-foot-trefoil, crested dog's-tail, false oat-grass, and occasional red fescue, meadow vetchling, ribwort plantain, white clover, red clover, and rare smooth rush and lesser stitchwort.

TN# SP06s46 Not separated by boundary from the adjacent improved grassland, this grassland is uncut and un-grazed, dominated by tall grasses including false oat-grass, Yorkshire fog, Timothy, but also frequent red and white clover, creeping buttercup, meadow vetchling, and rare crested dog's-tail, common knapweed and common sorrel are found.

Habitat Description

This area is dominated by high biodiversity habitats. Approximately 50% of the land is of ecological significance with semi-improved and poor semi-improved grassland (some BAP quality habitats) being the majority. There is a Linear LWS/SINC (River Arrow SP06Li16s) and four pLWS/SINCs (Fields North of Studley SP06S1, Brickyard Lane SP06R2, New Coppice Wood and Fields at Dogtail End SP06L3 and Rough Hill Wood SSSI SP06L5) and part of a SSSI (Rough Hill and Wirehill Woods). Part of the pLWS/SINC Fields North of Studley SP06S1 was surveyed as part of the Wildlife Sites Project during 2008 and was found to be very rich in species and is currently in sympathetic management. The site has yet to be assessed by the LWS panel because the WSP team have not been given access to the remaining areas of the pLWS/SINC. The areas of semi-improved and poor semi-improved grassland that are not part of an existing pLWS/SINC (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 & 18) are of significant value and will need further botanical surveys to determine their full value. The expanse of such valuable habitat is an important feature in the landscape especially as these grassland types are rapidly decreasing within Warwickshire.

The Linear LWS/SINC River Arrow is a significant feature in the landscape and supports a variety of wildlife including some county important species. There is a small section of broadleaved plantation (19) in the north that will need further investigation. This plantation appears to have been planted on what was once species rich semi improved grassland therefore the site may still retain a good diversity of species in the ground flora and periphery. There is a pond within one of the pLWS/SINCs that provides an important wetland habitat for wildlife and will need further investigation. There is an area of allotments that will need to be considered for biodiversity potential as despite not being a natural habitat they can still provide foraging habitat for many species especially invertebrates and birds.

Geological Description

The outcrop geology of this area is characterised by Mercia Mudstone bedrock. There are no Local Geological Sites recorded from this area. Further details of local geology are available on the British Geological Survey's Redditch Solid and Drift map (IGS 1989). There would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

Slow-worm and UK BAP butterfly species Small Heath have been recorded within the area. There are several badger records within the area. Otter has been recorded on the boundary of the area. Just outside the boundary, there are records of commutable species of great crested newt, Daubenton's bat and UK BAP butterfly species White Admiral and Small Heath.

Recommendations for Further Survey

The pLWS/SINCs (Fields North of Studley SP06S1, Brickyard Lane SP06R2, New Coppice Wood and Fields at Dogtail End SP06L3 and Rough Hill Wood SSSI SP06L5), will all need to be surveyed against the LWS criteria at an appropriate time of year for each habitat involved (for example between May and June for woodland and June and July for grassland).

The multiple areas of semi-improved and poor semi-improved grassland that are not part of an existing pLWS/SINC (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 & 18) will all need full botanical surveys between June and July to fully analyse the biodiversity potential of these sites. A reptile and an invertebrate survey should be completed within grasslands due to the presence of existing reptile records within the area.

The Linear LWS/SINC River Arrow SP06Li16w has been assessed using the specific River Linear Local Wildlife Site criteria and is now designated a Linear Local Wildlife Site. The River Arrow will need to be surveyed for water voles, both desk top study for existing records and a site survey to establish current status.

A botanical survey will be required for the broad leaved plantation (19) between May – June, to determine the full biodiversity value of this habitat.

The pond within this area (20) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of the pond will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

Further surveys for identified protected species of bat, amphibians, reptiles and invertebrates will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, plantation and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The outcome of the LWS surveys will determine the appropriate actions needed for the habitats involved within the existing pLWS/SINCs. If these potential Local Wildlife Sites qualify for designation then each site will need appropriate buffering to ensure the protection of these county important sites. Part of the pLWS/SINC Fields North of Studley SP06S1 was surveyed during 2008 as part of the WSP (Wildlife Sites Project) by the HBA team. Because only part of the pLWS/SINC was surveyed it was not taken to the panel meeting for an assessment. The HBA team were awaiting permission to access the remaining parcels of the pLWS/SINC. The part that was surveyed was found to be of LWS quality and therefore the site is likely to be designated a Local Wildlife Site.

The areas of semi-improved and poor semi-improved grassland (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 & 18) should be retained and buffered to prevent impact from run off and changes to hydrology affecting these sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The River Arrow (LWS/SINC) is an important linear feature and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. The River Arrow is potential water vole and existing otter habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles and presence of otters. A management plan for the river should be written and implemented to ensure future good management and enhancement of the habitat.

The plantation (19) is of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the site. This is to prevent damage to the site from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the plantation it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Arden Character area guidelines. The hedgerow regulations should be

referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites. The Arden Sandstone is of special interest, with special respect to its palaeontological potential.

Conclusion

The area named 'North', part of Studley, is dominated by semi-improved and poor semi-improved grassland. Approximately 50 % of all the land mass in the area is dominated by high biodiversity areas. The grassland habitats within this area are of significant ecological value and it is rare for Warwickshire to have such an expanse of good quality grassland that is for the most part connected. There is one Linear LWS/SINC (River Arrow SP06Li16s), four pLWS/SINCs and one SSSI, which are a significant number of county important sites for area of only 130 hectares in size. It is vital that the semi-improved and poor semi-improved grassland habitats are retained and managed sympathetically. Any loss of this grassland habitat within this area would be a significant loss in biodiversity. The river corridor, the areas of semi-improved and poor semi-improved grassland, the four pLWS/SINCs and the plantation should be protected and buffered from development. The results of the bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained. It is recommended that this area of Studley is **not** suitable for development.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.7 Henley-in-Arden

3.7.1 North

Area: 80.1 Hectares

Key Features

Linear LWS/SINC River Alne
Broad-leaved plantation
Marshy grassland
Semi-improved grassland
Poor semi-improved grassland
Broad-leaved semi-natural woodland
Ponds and swamp
Multiple intact hedgerows
Mature trees
Proximity to WWT Nature Reserve 'Henley Sidings'

Key Target Notes

TN# SP16n1 Stream course shaded by a mixture of willows and alder with a dense ground cover of ramson and lesser celandine.

TN# SP16n10 Semi-improved grassland with greater knapweed.

TN# SP16n12 Marshy grassland with dominant *Juncus* sp. Other species present include common spike rush, lesser stitchwort, agrimony and alsike clover. Common blue and small skipper butterflies recorded.

TN# SP16n13 Linear trees along river. Vegetation includes small teasel, greater celandine, water figwort, common valerian and nettle-leaved bellflower.

TN# SP16n18 Henley Sidings Warwickshire Wildlife Trust reserve. Unimproved grassland with a mix of knapweed, agrimony, hoary plantain, cowslip, wild carrot, yarrow, fairy flax, oxeye daisy, common centaury and lady's bedstraw.

Habitat Description

The area named 'North' part of Henley in Arden is predominantly improved grassland which is a low biodiversity value habitat. Numerous hedgerows and mature trees enhance the biodiversity value of this area. The River Alne is an important linear feature that has some very interesting botanical species lining its banks (TN# SP16n1 & 13). This river is one of the most ecological significant features within this section. The area of marshy grassland within the larger area of poor semi-improved grassland (4) is also of high biodiversity value with interesting botanical species (TN# SP16n12). There is a large expanse of broad-leaved plantation (1) that is important for wildlife and that is connected to the semi-improved grasslands in 'Henley East' increasing its biodiversity value. The area of semi-improved grassland (TN# SP16n10) is potentially valuable due to the proximity to the semi-natural woodland (5) and the very large species rich semi-improved grassland within the 'East' section. There is a disused railway along the western boundary of the 'North' section the runs from north to south. A small section of this railway is the Warwickshire Wildlife Trust

Nature Reserve 'Henley Sidings' (TN SP16n18). Although this reserve is not within the 'North' boundary, its proximity to a potential development area is significant. This reserve has a small section of unimproved grassland with a rich species list. This habitat is sensitive to change and could be affected by any adjacent development. Two ponds are located within this section (2 & 3) surrounded by improved grassland, these are valuable for amphibians and invertebrates and could be used by great crested newts *Triturus cristatus*.

Geological Description

This area is characterised by Mercia Mudstone Group outcrop, incorporating the west-facing escarpment of the Arden Sandstone Formation. Further details of local geology are available on the British Geological Survey's Redditch Solid and Drift map (IGS 1989). There are no Local Geological Sites recorded in this area. There would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

Protected species white-clawed crayfish and great crested newt have been recorded within the area. There are also records of UK BAP butterfly species the Small Heath within the area. Immediately adjacent to the boundary and near to the site are records of grass snake, indeterminate bat species and the UK BAP butterfly White-letter Hairstreak.

Recommendations for Further Survey

The Linear LWS/SINC River Alne has been assessed using the specific River Linear Local Wildlife Site criteria and has been fully designated as a linear LWS. The River Alne will need to be surveyed for water voles, both desk top study for existing records and a site survey to establish current status.

The areas of semi-improved grassland, poor semi-improved grassland and marshy grassland (4, TN# SP16n10, SP16n12) should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites. A study of the hydrology for the marshy areas of grassland will need to be completed to analyse the potential effects of development on the biodiversity of this sensitive habitat. A reptile and an invertebrate survey should be completed within these grasslands due to the presence of existing reptile records within a commutable location.

A botanical survey will be required for the small section of semi-natural woodland and plantation between May – June, to determine the full biodiversity value of these habitats.

Further surveys for identified protected species of bat, white-clawed Crayfish, amphibians, reptiles and invertebrates will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

The ponds within this area (2 & 3) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of the pond will also need to be undertaken to ensure any development will not have any adverse affect on the ponds water levels or water quality or affect the surrounding marshy grassland.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The River Alne (LWS/SINC) is an important linear feature with species rich bank side habitats and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. The River Alne is potential water vole and otter habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles or otters. A management plan for the River should be written and implemented to ensure future good management and enhancement of the habitat.

The areas of semi-improved, poor semi-improved and marshy grassland (4, TN# SP16n10, SP16n12) should be retained and buffered to prevent impact from run off and changes to hydrology affecting the site. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The small sections of woodland (5 & 6) are of significant biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the site. The broad-leaved plantation (1) should be protected from development, including designation and implementation of a buffer zone of 100 metres around the site. This is to prevent damage to the woodland site from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With mature trees in the woodland, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as

advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within this area. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites. The Arden Sandstone is of special interest, principally for its palaeontological potential.

Conclusion

Although the area named 'North', part of Henley in Arden, is predominantly low biodiversity value improved grassland it has many features including the semi-improved, poor semi-improved and marshy grassland and semi-natural woodland that are of high biodiversity value, with some county important plant species. Any development within this area should avoid the areas of good quality grassland and avoid any impact on the River Alne or the dismantled railways. The outcome of further intensive surveys will determine the value of the plantation and which hedgerows should be retained. Any development within this area would need to consider the areas of woodland, plantation, and grassland and have suitable mitigation for any hedgerow losses. The WWT Nature Reserve 'Henley Sidings' especially the unimproved grassland would need a substantial buffer zone to prevent impact on these rich wildlife habitats. The results of the bird surveys will inform retention of any particular arable fields.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.7.2 East

Area: 72.9 hectares

Key Features

Large area of good quality semi-improved grassland - pLWS/SINC Beaudesert Mount SP16N1

LWS/SINC quality pLWS/SINC Blackford Road Verge SP16M2

Ponds

Multiple intact hedgerows

Large area of continuous scrub

Broad leaved plantation

Key Target Notes

TN# SP16n2 Beaudesert Castle area. A mosaic of grassland, tall herbs and hawthorn scrub. Grass species include cocksfoot, red fescue with quaking grass identified on previous surveys. A popular area for informal recreational use, dog walkers etc. Marbled white and Rosselle's bush cricket noted. Tufted hair grass and false oat-grass dominant.

TN# SP16n3 An area of dense hawthorn scrub with very little ground flora.

TN# SP16n9 Lots of ant hills in semi-improved grassland. Species include lesser stitchwort, lady's bedstraw and meadowsweet.

TN# SP16n11 Fish pond dry but with rushes and also present marsh foxtail and common marsh bedstraw

TN# SP16s16 Unimproved neutral grassland bank between hedge and road, full of field scabious, agrimony, red clover, knapweed, meadow vetchling, bird's-foot trefoil, yarrow, wild basil, perforate St John's wort, meadow buttercup and musk mallow. Roselle's bush cricket also seen.

Habitat Description

The northern section of this area is predominantly species rich semi-improved grassland, continuous scrub, intact hedgerows and the large pLWS/SINC Beaudesert Mount SP16N1 (TN # SP16n11, 12 & 9). Beaudesert Mount provides an important combination of habitats spread over a relatively large area. The majority of the remaining area is comprised of improved grassland with intact hedgerows. There are three areas of standing water within the parcel (1, 2 & 3) that provide an important wetland habitat for wildlife. There is a pLWS/SINC (Blackford Hill Road Verge SP16M2, TN # SP16s16) along the south boundary of this area that is LWS/SINC quality unimproved grassland with a rich floral diversity.

Geological Description

This area is characterised by Mercia Mudstone Group outcrop, incorporating the west-facing escarpment of the Arden Sandstone Formation. Further details of local geology are available on the British Geological Survey's Redditch Solid and Drift map (IGS 1989). There are no Local Geological Sites recorded in this area. There

would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

Within the area are records of bats including brown long-eared bat and an indeterminate species. In addition there are records of UK BAP species the Small Heath butterfly. Just outside the area are further Small Heath records, a badger record and white-clawed crayfish recorded on the River Alne.

Recommendations for Further Survey

The areas of semi-improved grassland and marshy grassland should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites. The pLWS/SINC Beadesert Mount SP16N1 should be surveyed using the Local Wildlife Site criteria to determine the quality of this potentially county important site.

The pLWS/SINC Blackford Hill Road Verge SP16M2 should be surveyed against the Local Wildlife Site criteria between June and July.

A botanical survey will be required for the sections of continuous scrub and plantation woodland between May – June, to determine the full biodiversity value of these habitats.

Further surveys for identified protected species of bat, amphibians, reptiles and invertebrates will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

The ponds within this area (1, 2 & 3) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of the ponds will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey

of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The areas of semi-improved grassland should be retained and buffered to prevent impact from run off and changes to hydrology affecting the site. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The sections of continuous scrub and plantation (4 & 5) are of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the sites. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the scrub and in the plantation, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within this area. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites. The Arden Sandstone Formation is of special interest in this area, given its palaeontological potential.

Conclusion

The area named 'East', part of Henley in Arden, has a large amount of high biodiversity areas that are concentrated in the northern part of this area. Any development within this area should avoid the areas of semi-improved grassland and scrub as the combination and relative size of these habitats create an important wildlife feature. The pLWS/SINCs should be protected and managed appropriately to enhance the biodiversity of the area. The results of bird surveys will inform

retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhanced before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.7.3 South

Area: 69.4 hectares

Key Features

Semi-improved grassland

Linear LWS/SINC River Alne and associated habitats

Mixed plantation

Pond

Multiple hedgerows with mature trees

Small section of broad leaved semi natural woodland

Key Target Notes

TN# SP16m16 A mosaic of marshy grassland, willow scrub, swamp and tall ruderal between meanders of River Alne. Wetland species such as butterbur, burdock and reed mace found between willow carr and areas of meadowsweet and nettles. Good for songbirds, especially warblers.

TN# SP16m17 A mixture of semi-improved grassland and scrub. To the north of the footpath the grassland has been invaded by hawthorn, field rose, dogwood and guelder rose as well as young cherry which have presumably been planted. Some patches are dominated by tall ruderal species such as cow parsley, hogweed and nettle between coarse grasses, of which cocksfoot and false oat-grass are the most common. To the south of the footpath these coarse grasses dominate with little scrub.

TN# SP16m18 Mature mixed plantation woodland made up of larch, spruce, lime, sycamore, horse chestnut and exotics, with an understorey of young self seeded sycamore and elder. Elm suckers are common along the western edge. The ground flora includes abundant ivy, dog mercury and herb Robert with extensive nettle patches and occasional spotted dead-nettle and lords and ladies. There is some evidence of muntjac and badger activity.

TN# SP16m19 Semi-improved pasture last grazed by cattle over six years ago, now rough grassland dominated by false oat grass with occasional cocksfoot grass and meadow foxtail. Forbs are infrequent for the most part with occasional sorrel and germander speedwell while the edges are dominated by tall ruderal species. There are occasional patches of shorter finer grasses such as red fescue where yarrow, meadow buttercup, meadow vetchling and bird's-foot-trefoil are found.

Habitat Description

This area of land is comprised of mainly arable and amenity grassland, which are of low biodiversity value. However the River Alne is situated in the centre and is of high biodiversity value with valuable associated grassland habitat (1, 2 & 3). There is a section of semi-improved grassland in the north this area (4) and poor semi-improved grassland adjacent (5) that are of high biodiversity value. Adjacent to these areas of grassland is a small section of mixed plantation (6) that has moderate wildlife value. The very small sections of broad-leaved semi-natural woodland (7, 8 & 9) provide suitable habitat for nesting, roosting and foraging, however due to the relative size of the woodlands this maybe limited. There are multiple hedgerows

within the parcel that are intact and have mature trees. There is a moderate sized pond (10) with mature trees that may support and range of species.

Geological Description

This area is characterised by Mercia Mudstone Group outcrop, incorporating the west-facing escarpment of the Arden Sandstone Formation. Further details of local geology are available on the British Geological Survey's Redditch Solid and Drift map (IGS 1989). There are no Local Geological Sites recorded in this area. There would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

Within this area are records of white-clawed crayfish on the Oldberrow Brook and a badger sett record. The county rare plant Sherard's Downy Rose (*Rosa sherardii*) has been recorded within the area. Recorded just outside the area are commutable species of common frog, brown long-eared bat and indeterminate bat species and the rare or endangered plant species of Green-winged orchid.

Recommendations for Further Survey

The areas of semi-improved grassland (1, 2, 3, 4 & 5) should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites.

The Linear LWS/SINC River Alne has been assessed using the specific River Linear Local Wildlife Site criteria and has subsequently been fully designated as a linear LWS. The River Alne will need to be surveyed for water voles, both desk top study for existing records and a site survey to establish current status.

A botanical survey will be required for the sections of mixed plantation and broad-leaved semi-natural woodland (6, 7, 8 & 9) between May – June, to determine the full biodiversity value of these habitats.

Further surveys for identified protected species of bat, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value to identify any mature and important trees within the hedgerows.

The pond within this area (10) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of the pond will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The areas of semi-improved grassland (1, 2, 3, 4 & 5) should be retained and buffered to prevent impact from run off and changes to hydrology affecting the site. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The River Alne (LWS/SINC) is an important linear feature with species rich bank side habitats and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. The River Alne is potential water vole and otter habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles or otters. A management plan for the River should be written and implemented to ensure future good management and enhancement of the habitat.

The sections of plantation and semi-natural woodland (6, 7, 8 & 9) are of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the sites. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the woodland and in the plantation, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within this area. All planting should be

native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites. The Arden sandstone is of special interest within this area.

Conclusion

The area named 'South', part of Henley-in-Arden, has a number of potentially high biodiversity areas including the grasslands, river, plantation and woodlands and hedgerows. Any development within this area should avoid the areas of semi-improved grassland and buffer sufficiently for the River Alne. The results of bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.7.4 West

Area: 79.6 hectares

Key Features

pLWS/SINC Henley Grasslands SP16N3

pLWS/SINC Railway Cutting SP16M1

Linear pLWS/SINC Ullenhall Brook SP16D4

WWT Nature Reserve and pLWS/SINC Henley Sidings SP16N2

Standing water and associated habitat

Multiple hedgerows

Key Target Notes

TN# SP16m1 A small area of semi-improved grassland (probably disused allotments) dominated by coarse grasses with abundant cocksfoot, common couch and false oat-grass with patches of cow parsley. Occasional black medick, hairy tare and red clover.

TN# SP16m2 Poor semi-improved pasture grazed by sheep dominated by crested dog's-tail with occasional perennial rye-grass and meadow foxtail. Forbs are rare and concentrated around the edges of the field and include black medick, white clover, common mouse-ear and bulbous buttercup.

TN# SP16m3 Poor semi-improved hay meadow dominated by soft brome, with occasional meadow foxtail and crested dog's-tail. Yorkshire fog is present near the bottom of the east facing slope and a strip of sorrel adjacent to the northern hedgerow. The abundant black medick and occasional bird's-foot-trefoil is presumably responsible for the presence of common blue and brown argus butterflies. Small heath butterfly also seen.

TN# SP16m24 Sunken track with double hedgerow with trees.

TN# SP16n5 Small area of swamp with reed mace and greater pond sedge, bordered by dense bramble and lined with willow and aspen.

TN# SP16n19 Large pond within golf course. Planted up with native stock.

Habitat Description

This area of land is comprised of three major sections with amenity grassland in the form of a golf course in the north, a large expanse of semi improved grassland in the form of Henley Grasslands pLWS/SINC in the centre and low wildlife value improved grassland in the south. The import feature within the golf course is a pond planted with native species alongside a hedgerow. The pLWS/SINC grasslands are of high biodiversity value, especially due to the relative size of this habitat. These grasslands also have a number of intact hedgerows which enhances the biodiversity value. This area of Henley in Arden is separated from the rest of the town by a disused railway, an important linear feature, with a good range of important wildlife habitats. Sections of this railway are existing pLWS/SINCs and the northern section is a Warwickshire Wildlife Trust Nature Reserve with species rich unimproved grassland. Ullenhall Brook (linear pLWS/SINC) dissects this area in the south providing another wildlife corridor. The linear features within this area are a valuable resource for wildlife and are therefore of high biodiversity value.

Geological Description

This area is characterised by the Mercia Mudstone Group outcrop, incorporating the west-facing escarpment of the Arden Sandstone Formation. Further details of local geology are available on the British Geological Survey's Redditch Solid and Drift map (IGS 1989). There are no LGS recorded in this area. There would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

There are records of grass snake, white clawed-crayfish, and UK BAP butterfly species Small Heath within the area. On the boundary of the area is a badger record. Just outside the area are protected species records for grass snake, great crested newt, slow-worm and bat species (including common pipistrelle, brown long-eared, Leisler's Bat and an indeterminate species) and UK BAP records for the White-letter Hairstreak butterfly and brown hare. There are also rare or endangered plants of Stinking Hellebore, Sherad's Downy-Rose and Green-winged Orchid.

Recommendations for Further Survey

The pLWS/SINC Henley Grasslands SP16N3 and Henley Sidings SP16N2 should be surveyed using the Local Wildlife Site criteria between June and July to determine the quality of this potentially county important site. A reptile and an invertebrate survey should be completed within these grasslands due to the presence of existing reptile records within a commutable location.

The Linear pLWS/SINC Railway Cutting SP16M1 should be surveyed against the Local Wildlife Site criteria between June and July.

The Linear pLWS/SINC Ullenhall Brook should be assessed using the specific River Linear Local Wildlife Site criteria. Ullenhall Brook will need to be surveyed for water voles, both desk top study for existing records and a site survey to establish current status.

Further surveys for identified protected species of bat, white-clawed crayfish, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

The ponds within the area (1 & 2) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of the pond will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The areas of semi-improved grassland including the pLWS/SINC Henley Grasslands SP16N3 and Henley Sidings WWT Reserve SP16N2 should be retained and buffered to prevent impact from run off and changes to hydrology affecting the site. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

Ullenhall Brook (pLWS/SINC) and the Railway Cutting (pLWS/SINC) are important linear features with valuable associated habitats and should be protected by a suitable buffer zone implemented either side of each linear feature to prevent direct or indirect impact on the site. Ullenhall Brook is potential water vole habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles. A management plan for the brook should be written and implemented to ensure future good management and enhancement of the habitat.

The WWT Nature Reserve 'Henley Sidings' (pLWS/SINC) especially the unimproved grassland would need a substantial buffer zone to prevent impact on these rich wildlife habitats.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Arden Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within the parcel should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites. The Arden Sandstone is of special interest.

Conclusion

The section named 'West', part of the Henley in Arden township, has a large proportion of high biodiversity areas that are concentrated within the existing potential Local Wildlife Sites. Any development within this section should avoid the areas of semi-improved grassland including the areas highlighted as LWS/SINC potential. It is important to buffer the brook and railway cutting to ensure these linear features continue to function as wildlife corridors. The pLWS/SINCs should be protected and managed appropriately to enhance the biodiversity of the area including the WWT Nature Reserve Henley Sidings. The results of bird surveys will inform retention of any particular arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhanced before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.8 Shipston on Stour

3.8.1 North

Area: 115.8 hectares

Key Features

pLWS/SINC Roundham Spinney and Longham Spinney SP24Q3
Linear pLWS/SINC River Stour SP24Li17r – SP24Li17q (alongside eastern boundary)
Shipston-Moreton disused railway line
Poor semi-improved grassland
Broad-leaved plantation

Key Target Notes

TN# SP24k12 Poor horse grazed semi-improved pasture dominated by cocksfoot, Yorkshire fog with perennial rye-grass and occasional Timothy grass and red fescue. Forbs such as creeping buttercup and sorrel are scarce and there are patches of creeping thistle, nettle and broad-leaved dock.

TN# SP24q6 Orchard over poor semi-improved grassland.

TN# SP24q16 Improved ridge and furrow meadow. Field margins are most interesting and contain knotgrass, creeping thistle, greater plantain, great willowherb, autumn hawkbit, dandelion.

TN# SP24q17 Species rich hedge with trees, sycamore and lime, planted behind it. Hedge contains elm, elder, sycamore, hazel, hawthorn, ash, bramble, bittersweet.

TN# SP24q18 Plantation includes beech, horse-chestnut, ash, lime, crack willow.

TN# SP24q19 Elm hedge with ground flora of ground ivy and sweet violet.

Habitat Description

This area is dominated by arable and improved grassland which are low biodiversity value habitats. The areas with the highest biodiversity value are the pLWS/SINC (Roundham Spinney and Longham Spinney SP24Q3), the River Stour (linear pLWS/SINC) and the poor semi-improved grassland (1). There are a couple of sections of broad-leaved plantation (2 & 3) that have the potential to provide suitable roosting, nesting and foraging habitat for wildlife. There is part of the old Shipston-Moreton railway line and part of an old boundary hedge/track way (4) that has the potential to incorporate species rich hedgerows and a diverse flora. This habitat provides a good level of connectivity through the arable landscape and a refuge for many species.

Geological Description

The geological outcrop in this area is characterised by the Early Jurassic Blue Lias and overlying Charmouth Mudstone formations, overlain by terrace deposits and alluvium along the modern Stour Valley. Further details of local geology are available on the British Geological Survey's Banbury Solid and Drift map (IGS 1982). There are no Local Geological Sites recorded in this area. There would be potential for

geological recording and establishment of new records from temporary excavations within this area.

Protected Species

There is a record of the UK BAP butterfly species the Wall within the area. Just outside the area are commutable species of water vole, grass snake, bats (common pipistrelle and pipistrelle sp.) and the UK BAP species Small Heath butterfly. In addition there are the rare and endangered species of Field Garlic and Large-flowered Hemp Nettle.

Recommendations for Further Survey

The pLWS/SINC Roundham Spinney and Longham Spinney SP24Q3 will need to be surveyed against the LWS criteria between May and June.

The Linear pLWS/SINC River Stour SP24Li17r – SP24Li17q should be assessed using the specific River Linear Local Wildlife Site criteria. The River Stour will need to be surveyed for water voles and otters, both desk top study for existing records and a site survey to establish current status.

The poor semi-improved grassland (1) should have a full botanical survey between June and July to fully analyse the biodiversity potential of this site. A reptile and an invertebrate survey should be completed within this grassland due to the presence of existing reptile records within a commutable location.

The disused railway and old boundary hedge/track way (4) should have full botanical surveys between May and June to fully analyse the biodiversity potential of these sites.

A botanical survey will be required for the sections of broad-leaved plantation (2 & 3) between May – June, to determine the full biodiversity value of these habitats.

Further surveys for identified protected species of bat, water vole, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and

Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The outcome of the LWS survey will determine the appropriate actions needed for the habitats involved within Roundham Spinney and Longham Spinney SP24Q3. It is likely that the potential Local Wildlife Site will qualify for designation and therefore this site will need appropriate buffering to ensure the protection of this county important site.

The River Stour (pLWS/SINC) is an important linear feature and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. The River Stour is potential water vole and existing otter habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles and existing presence of otters. A management plan for the river should be written and implemented to ensure future good management and enhancement of the habitat.

The area of poor semi-improved grassland (1) should be retained and buffered to prevent impact from run off and changes to hydrology affecting this site. A management plan should be written and implemented for this grassland to maintain its biodiversity value.

The disused railway and old boundary hedge/track way (4) are important linear features that should be protected from development and buffered either side of each feature.

The areas of broad-leaved plantation (2 & 3) are of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the sites. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the plantation, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. This includes the potential old boundary hedge/track way. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future

tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development/excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites. The Lower Jurassic formations are of special interest, geologically and palaeontologically.

Conclusion

The area named 'North', part of Shipston on Stour, has large areas dominated by low biodiversity value habitats (arable land and improved grassland). The potential Local Wildlife Site (Roundham Spinney and Longham Spinney SP24Q3) and the area of poor semi-improved grassland should be protected from development. The River Stour runs along the eastern boundary of this area and is an important linear feature that should be protected and buffered from development. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained. Results from the bird surveys will inform retention of any arable fields.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.8.2 East

Area: 133.1 hectares

Key Features

Linear pLWS/SINC River Stour SP24Li17q
pLWS/SINC Shipston on Stour River Mead SP24K2 (Partly within boundary)
Semi-improved grassland
pLWS/SINC Sewage Bed SP24Q1 (Just outside boundary)
Broad-leaved plantation
Hedgerows

Key Target Notes

TN# SP24k11 A small area of rough grassland and disturbed ground with frequent false oat grass, cocksfoot and couch grass and forbs and tall herbs such as teasel, broad-leaved dock, sow thistle, bristly ox-tongue and occasional great burnet and meadowsweet.

TN# SP24q1 Young broad-leaved plantation of ash, willow, oak, cherry and occasional spindle, dogwood, blackthorn, alder, wild privet, beech and sycamore all over cocksfoot, rough meadow grass, Yorkshire fog with frequent creeping buttercup, broad-leaved dock, creeping thistle and nettle and occasional rosebay willowherb.

TN# SP23u26 An island formed by the River Stour and a branch to feed a mill. This has a house and small area of garden at the south tip, but the majority of the site is rough grass dominated by cocksfoot, with frequent false oat-grass, Yorkshire fog, common bent and red fescue. Few forbs were visible, nettles and docks the most frequent and occasionally forming dense patches. Occasional creeping buttercup, creeping thistle, hogweed and cow parsley were found with possibly lady's bedstraw in one area at the west bank of the island. The river has been recently dredged and little aquatic vegetation was present with occasional reed canary grass and water figwort. Occasional teasel and great willowherb are found along the banks.

TN# SP23u29 This field appears to be improved with grade 2 ridge and furrow. There is a large pile of earth across the middle of the site. A single willow pollard in the middle of the field.

TN# SP23u40 Old road, fairly species rich.

Habitat Description

This area is dominated by arable in the northern section and improved grassland in the southern section. The south contains areas of amenity grassland and more ecologically significant areas of broadleaved plantation (1 & 2) and semi-improved grassland (3 & 4). One of the most important aspects of this area is the River Stour which dissects the centre of this area. The river provides a vital green corridor for wildlife and has the potential to support protected species. There is a pLWS/SINC (Shipston on Stour River Mead SP24K2) that is partly contained within the boundary that requires surveying against the LWS criteria. In addition there is another pLWS/SINC (Sewage Bed SP24Q1) just outside the boundary of the area that requires a LWS survey. Sewage Bed SP24Q1 is a common reed-bed that is a

sensitive habitat that could potentially be affected by any changes to hydrology caused by development.

Geological Description

The geology of this area is characterised by the Early Jurassic Charmouth Mudstone Formation, overlain along the Stour Valley by Quaternary river terrace deposits and alluvium. Further details of local geology are available on the British Geological Survey's Banbury Solid and Drift map (IGS 1982). There are no Local Geological Sites recorded in this area. There would be potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

Within this area are records of water vole and UK BAP butterfly species the Small Heath. The county rare plant Good King Henry (*Chenopodium bonus-henricus*) has also been recorded within the area. On the boundary of the area brown hare has been recorded and bats, otter and white-clawed crayfish (on the River Stour which flows through the area) and the UK BAP listed Wall butterfly have been recorded within close proximity of the area.

Recommendations for Further Survey

The Linear pLWS/SINC River Stour SP24Li17q – SP24Li17u should be assessed using the specific River Linear Local Wildlife Site criteria. The River Stour will need to be surveyed for water voles and otters, both desk top study for existing records and a site survey to establish current status.

The pLWS/SINCs Shipston on Stour River Mead SP24K2 and Sewage Bed SP24Q1 will need to be surveyed against the LWS criteria between June and July.

The semi-improved grassland (3 & 4) should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites.

The road mentioned in TN# SP23u40 should have a full botanical survey between June and July to fully analyse the biodiversity potential of this site.

A botanical survey will be required for the sections of broad-leaved plantation (1 & 2) between May – June, to determine the full biodiversity value of these habitats.

Further surveys for identified protected species of bat, otter, white-clawed crayfish, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The River Stour (pLWS/SINC) is an important linear feature and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. The River Stour is potential water vole and existing otter habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles and the existing presence of otters. A management plan for the river should be written and implemented to ensure future good management and enhancement of the habitat.

The outcome of the LWS surveys will determine the appropriate actions needed for the habitats involved within these sites. It is likely that the potential Local Wildlife Sites will qualify for designation and therefore these sites will need appropriate buffering to ensure the protection of these county important sites.

The areas of semi-improved grassland (3 & 4) should be retained and buffered to prevent impact from run off and changes to hydrology affecting these sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The areas of broad-leaved plantation (1 & 2) are of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the sites. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the plantation, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites. The Charmouth Mudstone is of special interest, geologically and palaeontologically.

Conclusion

The area named 'East', part of Shipston on Stour, has lower biodiversity areas located in the northern section (arable land) and the higher biodiversity value habitats located in the centre and towards the southern end. The potential Local Wildlife Sites (Sewage Bed SP24Q1 and Shipston on Stour River Mead SP24K2) and the areas of semi-improved grassland should be protected and buffered from development. The River Stour runs diagonally through the centre section of this area and is an important linear feature that should be protected and buffered from development. The bird surveys will inform retention of any arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhanced before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.8.3 West

Area: 151.2 hectares

Key Features

pLWS/SINC Furze Hill Fields SP23P1
pLWS/SINC Mount Pleasant Orchard SP24K1
Poor semi-improved grassland
Species rich old track-way/green lane
Watercourse (small brook)
Good hedgerow connectivity in southern section

Key Target Notes

TN# SP24k8 pLWS/SINC Old orchard with well spaced apple trees over rough horse grazed grassland dominated by false oat-grass, cocksfoot, Yorkshire fog occasional perennial rye-grass and Timothy grass and scattered nettle and broad-leaved dock.

TN# SP24k10 Gravel track lined by species rich hedge with a mix of hawthorn, dogwood, wild privet, bramble, blackthorn, dog rose, elm and occasional ash, elder, plum and oak. The verge is dominated by false oat-grass with cocksfoot, Yorkshire fog, crested dog's-tail, smooth meadow grass, perennial rye-grass, Timothy grass and occasional red fescue. Forbs include black knapweed, red bartsia, red clover and occasional meadow vetchling.

TN# SP24k14 Poor semi-improved meadow. Creeping thistle, rosebay willowherb, Oxford ragwort, curled dock, creeping buttercup, creeping bent. Oak and hawthorn saplings.

TN# SP24k16 Species rich roadside verge and hedgerow - bramble, elm, hawthorn, bittersweet, creeping thistle, curled dock, rough chervil, dandelion, ribwort plantain, meadow buttercup, creeping buttercup, occasional common nettle, yarrow, mugwort, hogweed, autumn hawkbit, meadow vetchling, greater plantain, great willowherb, red clover.

TN# SP24k17 Dried out hawthorn and willow scrub hollow. There may be a small area of marshy grass left with fool's watercress, but it was very difficult to view. Surrounding the scrub were common nettle, bramble, creeping thistle, great willowherb, elder.

TN# SP24k18 Semi-improved meadow - creeping buttercup, bulbous buttercup, curled dock, bristly ox-tongue, very occasional meadow buttercup, creeping thistle, hogweed, white clover, ribwort plantain.

TN# SP23p14 Recently cut so no detail is possible but according to a local resident this field is left untouched until approximately September then grazed lightly by sheep. Although no flora can be described it is likely that is a good site and is worth re surveying.

Habitat Description

This area is dominated with low biodiversity value arable land, however there are a few features and sites that have a high biodiversity value. There are two pLWS/SINCs (Furze Hill Fields SP23P1 and Mount Pleasant Orchard SP24K1)

within the area that require surveying against the LWS criteria. There are two poor semi-improved grasslands (1 & 2) that are valuable wildlife habitats that require further surveys. A small brook (3) located in the southern section of this area is an important linear feature and is a valuable wildlife habitat. A species rich old track-way/green lane (4) dissects the centre section that has the potential to be a pLWS/SINC and requires further surveys. There are numerous hedgerows within this area that provide a good level of connectivity throughout this area. There are a few ponds (5 & 6), located in the southern section that provide an important feature in the landscape creating breeding and feeding opportunities for wildlife. The road leading into Shipston on Stour (7) has been identified as being species rich, therefore this road verge would need further botanical surveys to determine its biodiversity value.

Geological Description

This area is characterised by outcropping Early Jurassic Charmouth Mudstone Formation, margined in the east by Quaternary glacial deposits mapped as Boulder Clay. Further details of local geology are available on the British Geological Survey's Banbury Solid and Drift map (IGS 1982). There are no LGS recorded in this area. There would be good potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

The UK BAP butterfly species White-letter Hairstreak, has been recorded within the area along with county rare plants comprising a Sheep's fescue subspecies (*Festuca ovina ssp ophioliticola*) and Weasel's snout (*Misopates orontium*). Just outside the area are bat species including pipistrelle sp. and common pipistrelle, otter, watervole and white-clawed crayfish plus UK BAP butterfly species the Small Heath and Wall.

Recommendations for Further Survey

The pLWS/SINCs Furze Hill Fields SP23P1 and Mount Pleasant Orchard SP24K1 will need to be surveyed against the LWS criteria between June and July.

The old track-way/green lane (4) should have a full botanical survey between June and July to fully analyse the biodiversity potential of this site. It is recommended that this survey be in accordance with the LWS criteria as it is likely that the site is of LWS quality.

The poor semi-improved grassland (1 & 2) should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites.

The small brook (3) should be assessed using the specific River Linear Local Wildlife Site criteria. The brook will need to be surveyed for water voles, both desk top study for existing records and a site survey to establish current status.

The ponds within the parcel (5 & 6) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey of the ponds will also need to be

undertaken to ensure any development will not have any adverse affect on water levels or water quality.

Further surveys for identified protected species of bat, otter, white-clawed crayfish, water vole, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The outcome of the LWS surveys will determine the appropriate actions needed for the habitats involved within these sites. It is likely that the potential Local Wildlife Sites will qualify for designation and therefore these sites will need appropriate buffering to ensure the protection of these county important sites.

The old track-way/green lane (4) is an important linear feature and should be protected from development including the implementation of a buffer zone either side.

The areas of poor semi-improved grassland (1 & 2) should be retained and buffered to prevent impact from run off and changes to hydrology affecting these sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

The brook (3) is an important linear feature and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. The brook is potential water vole habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles. A management plan for the brook should be written and implemented to ensure future good management and enhancement of the habitat.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites.

Conclusion

The area named 'West', part of Shipston on Stour, has numerous areas and features that are ecologically significant. The potential Local Wildlife Sites (Furze Hill Fields SP23P1 and Mount Pleasant Orchard SP24K1) and the areas of poor semi-improved grassland (1 & 2) should be protected from development. It is important that the old track-way/green lane (4) is protected from development. A small brook (3) located in the southern tip of this area is an important linear feature that should be protected and buffered from development. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained. Results from bird surveys will inform retention of particular fields.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.9 Southam

3.9.1 North-East

Area: 99.4 hectares

Key Features

LWS/SINC Long Itchington Quarry (designated December 2009) SP46B3

RIGS Southam Cement Quarries/Long Itchington Quarry

RIGS Southam By-pass Cutting

Poor semi-improved grassland

Species rich road verges

Standing water within quarry site plus two ponds

Multiple intact hedgerows

Small areas of semi-improved grassland

River Stowe

Key Target Notes

TN# SP46f5 Coarse grassland dominated by false oat-grass, with Timothy grass, cocksfoot and meadow barley. There are frequent and scattered nettles, thistles and docks across the site.

TN# SP46f8 Rank grassland, formerly recorded as semi-improved. Now with common nettle, hemlock, teasel, and creeping thistle. Only a small area remains of agrimony and great burnet.

TN# SP46g27 Broad-leaved semi-natural woodland with dense canopy of mainly ash and an understorey of hawthorn, field maple, blackthorn, elder and elm. The ground flora is dominated by ivy, but also frequent violet sp. exists and occasional cow parsley, garlic mustard, wood avens, common nettle are found together with rare burdock sp. and hedge woundwort. Rare black bryony also exists on some trees. Dead, fallen wood is frequent and lichen and moss species are found together with fungi. Natural regeneration is occurring and there are frequent saplings. There is some rubbish tipping especially to the north where a former pond was completely dried out at the time of survey.

TN# SP46g30 Considered as a potential Local Wildlife Site (pLWS/SINC) by the surveyor. Excellent small parcel of semi-improved neutral grassland on the top of covered reservoir surrounded by dense scrub on slopes. Given its location, any chemical runoff from adjacent agricultural land is unlikely and the grassland could well be considered unimproved. Frequent agrimony is found, with common bird's foot trefoil, red clover, locally frequent meadow vetchling and lady's bedstraw. Also occasional false oat grass, Yorkshire fog, black medick, ribwort plantain, oxeye daisy, crested dog's tail, yarrow, common mouse ear, cocks foot, bent and sedge spp, rare vetch sp, self-heal and rare wild carrot. Notably this small parcel contains frequent quaking grass. A haven for invertebrates including butterflies and moths. Over four burnet moths seen at time of survey together with several butterflies. The site was also considered to be of pLWS/SINC quality. Also noted cowslip and oxford ragwort.

TN# SP46g39 Poor semi-improved grassland meadow. Dominated by brome sp., with fescue sp., cocks-foot, Yorkshire fog, false oat-grass, common nettle, creeping thistle, dandelion, hawks-beard sp., occasional white clover, rare perennial sow thistle and field bindweed. Skylark seen. There is a small derelict building in the middle of the field surrounded by elder and common nettle, with dumped corrugated iron which is potential reptile/amphibian/mammal refugia.

Habitat Description

This area of land is comprised of a mixture of arable and grassland habitats with the southern end of Southam Quarry in the northern section. The areas of arable and improved grassland are of low biodiversity value, however the multiple hedgerows that dissect these areas are important for wildlife. There are a number of areas of poor semi-improved and semi-improved grassland that are ecologically significant (1, 6, 7 & 8). One area in particular has been recommended by the surveyor to be deemed worthy of becoming a pLWS/SINC (1). There is a significant species diversity found within this site, however it is extremely small and isolated within an arable field. Further surveys of this site would need to be undertaken to fully analyse its biodiversity potential. There is a section of road verge that is particularly rich in floral species (2). The River Stowe flows along the southern part of this section. The river is an important linear feature and has the potential to support protected species. There are three areas of standing water (3, 4 & 5) within the section that provide an important habitat for many species and have the potential to support protected species.

Geological Description

This area is characterised by outcropping Early Jurassic Blue Lias Formation. There are two LGS within the area, namely Southam Cement Works quarry and Southam By-pass cutting. Both are selected principally for their exposures of the Blue Lias Formation. Further details of the geology can be found on the British Geological Survey's Warwick Solid and Drift Sheet (IGS 1984). There would be good potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

Protected species records within the area comprise bats (including pipistrelle sp and brown long-eared bat), brown hare, BAP butterfly species White-letter Hairstreak and county rare plants Corn Gromwell (*Lithospermum arvense*) and Corn Buttercup (*Ranunculus arvensis*). On the boundary there is a record of great crested newt. Outside of the area are records of the UK BAP butterfly species Small Heath, Wall, Grizzled Skipper, Dingy Skipper and Small Blue, the latter two of which are also local BAP species. There are also additional rare and endangered plant species of Common Marsh Bedstraw ssp., Greater Butterfly orchid and Glaucous Dog-rose.

Recommendations for Further Survey

The areas of poor semi-improved grassland and semi-improved grassland (1, 6, 7 & 8) should have full botanical surveys between June and July to fully analyse the

biodiversity potential of these sites. The recommended pLWS/SINC grassland (1) should be surveyed using the Local Wildlife Site Criteria.

The Linear pLWS/SINC River Stowe should be assessed using the specific River Linear Local Wildlife Site criteria. River Stowe will need to be surveyed for water voles, both desk top study for existing records and a site survey to establish current status.

Further surveys for identified protected species of bat, brown hare, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

The standing water within this area (3, 4 & 5) will need to be surveyed for amphibians in particular great crested newts. It is recommended that a bird survey be undertaken at the standing water site 3 to establish the potential for foraging birds, especially in winter. A hydrology survey will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The LWS/SINC Long Itchington Quarry SP46B3 was surveyed against the LWS criteria during 2009 and has subsequently been designated. This site has not been digitised as an LWS at the time of this report and hence it appears as a pLWS/SINC on the Local Sites map for Southam.

The areas of semi-improved grassland (1, 6, 7 & 8) should be retained and buffered to prevent impact from run off and changes to hydrology affecting the sites. A management plan should be written and implemented for these grasslands to maintain their biodiversity value. The species rich road side verges should be managed sympathetically to enhance biodiversity with sensitive mowing regimes.

River Stowe (pLWS/SINC) is an important linear feature with valuable associated habitats and should be protected by a suitable buffer zone implemented either side of the river to prevent direct or indirect impact on the site. River Stowe is potential water vole and otter habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles or otters. A management plan for the River should be written and implemented to ensure future good management and enhancement of the habitat.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites. The area is of special interest for the potential of the Blue Lias Formation for geological and palaeontological information gain.

Conclusion

The area named 'North-East', part of Southam, has some valuable grasslands that should be taken into account when planning any development. It is important to retain the quality of the River Stowe and to buffer it from development to ensure this linear feature continues to function as a wildlife corridor. The LWS/SINC Long Itchington Quarry should be protected and buffered from development. The standing water within the quarry site may be important for feeding birds and invertebrates. The results from bird surveys will inform retention of any arable fields. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and

mitigated for. These features will also need to remain connected within the wider landscape.

3.9.2 South-East

Area: 111.0 hectares

Key Features

Semi-improved grassland and poor semi-improved grassland
Good quality road side verges
Multiple hedgerows
Two ponds

Key Target Notes

TN SP46a9 No direct access to this site but viewed from the edges it was seen to contain false oat-grass, cocksfoot, Yorkshire fog and meadow foxtail. There was also abundant black knapweed, with creeping and spear thistle and ragwort.

TN SP46a10 Road side embankment dominated by false oat-grass with couch grass, wild oat, cocksfoot, red fescue and Timothy. Occasional hogweed, creeping and spear thistle, bittersweet, creeping cinquefoil, dock and ragwort.

TN SP46a21 Coarse grass dominated by a mosaic of false oat-grass, cocksfoot and Yorkshire fog, with frequent common bent and red fescue. Creeping and spear thistle and nettles were also recorded in the site. Target note located next to pond 2.

TN SP46f7 Good area of forbs along footpath, frequent yarrow, ribwort plantain, common knapweed, lady's bedstraw and black medick.

Habitat Description

This area of land is predominantly arable with some scattered grasslands of varying quality. The areas of arable and improved grassland are of low biodiversity value however the areas of semi-improved and poor semi-improved grassland are ecologically significant. There are a couple of species rich road side verges that enhance the biodiversity of the site. There are a few areas of set-aside which can often be a valuable habitat resembling more natural habitat types. The allotments within this section have the potential to be a suitable habitat for wildlife to use for foraging. There are two ponds (1 & 2) within the section that provide an important habitat for many species and have the potential to support protected species.

Geological Description

The geology of this area is characterised by the Early Jurassic Blue Lias Formation. There are two Local Geological Sites nearby, namely Southam Cement Works quarry and Southam By-pass cutting. Both are selected principally for their exposures of the Blue Lias Formation. Further details of the geology can be found on the British Geological Survey's Warwick Solid and Drift Sheet (IGS 1984). There would be good potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

Within the area there are protected species records for grass snake, great crested newt and common and soprano pipistrelle bat. Just outside of the area are records of barn owl, brown hare and further bat records including brown long-eared bat. The UK BAP and local BAP butterfly Dingy Skipper has been recorded outside of the area along with the UK BAP listed Grizzled Skipper and Small Heath. There is also a record for Common Broomrape near to the site.

Recommendations for Further Survey

The areas of poor semi-improved grassland and semi-improved grassland should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites. A reptile and an invertebrate survey should be completed within these grasslands due to the presence of existing reptile records within the area.

The ponds within this area (1 & 2) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

Further surveys for identified protected species of bat, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The areas of semi-improved grassland and poor semi-improved should be retained and buffered to prevent impact from run off and changes to hydrology affecting the site. A management plan should be written and implemented for these grasslands to

maintain their biodiversity value. The species rich road side verges should be managed sympathetically to enhance biodiversity with sensitive mowing regimes.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as Local Geological Sites. Exposures of the Blue Lias Formation and/or underlying strata are of special interest for their geological and palaeontological potential.

Conclusion

The section named 'South-East', part of Southam, has a small number of valuable grasslands that should be taken into account when planning any development. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained. Results from bird surveys will inform retention of particular arable fields.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.9.3 South-West

Area: 115.6 hectares

Key Features

Semi-improved grassland and poor semi-improved grassland
Multiple hedgerows
Mixed plantation

Key Target Notes

TN a7 Rank grassland with dominant false oat-grass and perennial rye-grass. Few forbs were observed with occasional hogweed, yarrow, creeping and spear thistle, docks and nettles.

TN a26 Area of disturbed ground that has been developed into poor semi-improved grassland. Oxford ragwort, dog rose, bristly ox-tongue, creeping thistle, spear thistle, curled dock, teasel, hawthorn, and ash saplings. Part of site to be developed into a new supermarket. Holywell Business Park already built and operational.

TN a27 Semi-improved grassland/meadow. Possible pLWS/SINC but surveyor was unable to gain access. Meadow is rented out for grazing by Stoneythorpe Estate and permission needs to be requested. Possibly contains meadow buttercup and common knapweed.

Habitat Description

This area of land is predominantly arable, improved grassland and amenity grassland. The areas of arable and improved grassland are of low biodiversity value however the areas of semi-improved and poor semi-improved grassland are valuable for wildlife (1, 2, 3 & 4). One meadow has been highlighted as a possible candidate to be considered a pLWS/SINC, however access was limited (1). There are multiple hedgerows within the site and a significant number of them with mature trees along their length.

Geological Description

The geology of this area is characterised by the Early Jurassic Blue Lias Formation. There are two Local Geological Sites nearby, namely Southam Cement Works quarry and Southam By-pass cutting. Both are selected principally for their exposures of the Blue Lias Formation. Further details of the geology can be found on the British Geological Survey's Warwick Solid and Drift Sheet (IGS 1984). There would be good potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

There are no records within the area although undetermined records of great-crested newt have been noted. Just outside of the area there are records of bats including common and soprano pipistrelle, barn owl, brown hare, common frog, grass snake, great crested newt and smooth newt. UK BAP butterflies have been recorded just outside the area including Small Heath, Grizzled Skipper and Dingy Skipper, the

latter of which is also a local BAP species. There is also a record for the rare and endangered plant Common Broomrape.

Recommendations for Further Survey

The areas of poor semi-improved grassland and semi-improved grassland (1, 2, 3 & 4) should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites. The small meadow highlighted as a possible pLWS/SINC should be surveyed specifically with reference to the LWS criteria in June – July.

Further surveys for identified protected species of bat, barn owl, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value. The mature trees should be noted and assessed regarding wildlife value.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

A botanical survey will be required for the small section of mixed plantation woodland (5) between May – June, to determine the full biodiversity value of this habitat.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The areas of semi-improved grassland and poor semi-improved grassland (1, 2, 3 & 4) should be retained and buffered to prevent impact from run off and changes to hydrology affecting the site. A management plan should be written and implemented for these grasslands to maintain their biodiversity value.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The small section of mixed plantation is of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the site. This is to prevent damage to the woodland site from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With mature trees in the plantation, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as LGS. In particular, the Blue Lias Formation and immediately underlying strata are of special interest, geologically and palaeontologically.

Conclusion

The area named 'South-West', part of Southam, has a few areas of valuable grassland that should be protected and buffered from development. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained. The network of hedgerows is valuable for connectivity across the area. The results from the bird surveys will inform retention of any particular arable fields.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhanced before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

3.9.4 North-West

Area: 126.8 hectares

Key Features

River Stowe
Multiple intact hedgerows
Poor semi-improved grassland
Ponds

Key Target Notes

TN# SP46a2 River Stowe with much hawthorn scrub growing over it with the lack of light preventing any aquatic vegetation becoming established. In the occasional open area there is dense reed canary grass, meadowsweet and nettles along the banks. By the bridge under the road there is plenty of aquatic vegetation e.g. arrowhead, fool's watercress, water figwort, branched bur reed and water forget-me-not.

TN# SP46a3 A strip of ash and oak dominated woodland with a dense understorey of field maple, elm regeneration, hazel, hawthorn, and sycamore. There are occasional aspen, larch and horse chestnut planted in with these and many young planted conifers at the edges.

TN# SP46a11 A small area of ash dominated woodland with an impenetrably dense understorey of field maple, hawthorn, blackthorn and elm regeneration. There are occasional oak, beech and sycamore also present in the canopy.

TN# SP46b20 Two areas of pond/standing water separated by linear scrub. Hawthorn, crack willow, teasel, hazel, white clover, bulrush, creeping thistle, rosebay willowherb.

TN# SP46a28 Poor semi-improved grassland-previously recorded as semi-improved. Common sorrel, Oxford ragwort, common mouse ear, bristly ox-tongue, curled dock, red clover, creeping buttercup, self-heal and creeping thistle.

Habitat Description

This area is dominated by arable land with scattered improved grassland. These habitats have a low biodiversity value however the numerous intact hedgerows which have the potential to be species rich or of ancient origin are valuable for wildlife. The River Stowe is an important feature within this landscape and provides an essential green corridor for wildlife. The small areas of woodland and plantation (1, 2 & 3) are valuable to wildlife by providing nesting, foraging and roosting opportunities. There are a couple of areas of poor semi-improved grassland (4 & 5) that have a moderate to high biodiversity value, which if sympathetically managed could enhance the biodiversity of the area. There are a couple of ponds (6) within this section that provide an important habitat for wildlife and have the potential to support protected species.

Geological Description

This area is characterised by an outcrop of the Early Jurassic Blue Lias Formation, margined in the west by the underlying Late Triassic Penarth Group and possibly the Blue Anchor Formation, There are two Local Geological Sites nearby, namely Southam Cement Works quarry and Southam By-pass cutting. Both are selected principally for their exposures of the Blue Lias Formation. Further details of geology can be found on the British Geological Survey's Warwick Solid and Drift Sheet (IGS 1984). There would be good potential for geological recording and establishment of new records from temporary excavations within this area.

Protected Species

There are no records of protected species within the area. Records outside the area include soprano pipistrelle, common pipistrelle, brown long-eared and indeterminate bat species. common lizard, great crested and smooth newt, barn owl and brown hare have been recorded just outside the area. There are also records for the rare and endangered plant species of Dropwort ssp., henbane, common broomrape and greater butterfly orchid.

Recommendations for Further Survey

The areas of poor semi-improved grassland (4 & 5) should have full botanical surveys between June and July to fully analyse the biodiversity potential of these sites. A reptile and an invertebrate survey should be completed within these grasslands due to the presence of existing reptile records within a commutable area.

River Stowe should be assessed using the specific River Linear Local Wildlife Site criteria. The River Stowe will need to be surveyed for water voles, both desk top study for existing records and a site survey to establish current status.

A botanical survey will be required for the small sections of plantation and broad-leaved semi-natural woodland (1, 2 & 3) between May – June, to determine the full biodiversity value of these habitats.

Further surveys for identified protected species of bat, brown hare, barn owl, amphibians, reptiles, invertebrates and rare and endangered plants will be required to determine the presence, absence and population sizes. Their associated habitats will also need to be surveyed and assessed for usage including that of hibernating, commuting and foraging.

It is recommended that the hedgerows are subjected to a full hedgerow survey following the ancient hedgerow criteria to establish the full extent of their biodiversity value and to identify any mature and important trees within the hedgerows.

The ponds within this area (6) will need to be surveyed for amphibians in particular great crested newts. A hydrology survey will also need to be undertaken to ensure any development will not have any adverse affect on water levels or water quality.

A desktop and field survey is recommended within the arable fields regarding rare farmland birds.

Bats can be found in many buildings and trees, even those that initially appear to be unsuitable. There are several mature trees within this parcel that are suitable for bat roost sites. Bats and their roost sites are protected under the 1981 Wildlife and Countryside Act, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010, the latter deems them a European Protected Species. Therefore it is recommended that a pre-determinative bat survey of the buildings, woodland and mature trees is undertaken at an appropriate time of year by a qualified ecologist.

Recommendations

The areas of poor semi-improved grassland (4 & 5) should be retained and buffered to prevent impact from run off and changes to hydrology affecting the site. A management plan should be written and implemented for these grasslands to maintain and enhance their biodiversity value.

The River Stowe is an important linear feature and should be protected by a suitable buffer zone implemented either side of the watercourse to prevent direct or indirect impact on the site. The River Stowe is potential water vole and otter habitat and needs to be protected. The buffer zone for this habitat is therefore dependent on the presence or absence of water voles or otters. A management plan for the River should be written and implemented to ensure future good management and enhancement of the habitat.

The sections of plantation and semi-natural woodland (1, 2 & 3) are of biodiversity value and should be protected from development, including designation and implementation of a buffer zone of 50 metres around the sites. This is to prevent damage to the sites from direct impact of root damage, or from indirect issues including changes to site hydrology, compaction, and increased temperature from development. With any mature trees in the woodland or plantation, it is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties.

It is recommended that any species rich hedgerows are retained with a buffer zone. The less biodiverse hedgerows should be replaced with new hedgerow habitat through and around any development, comprising suitable native species, as advised by Feldon Character area guidelines. The hedgerow regulations should be referred to for advice on their legal protection and requirements within Planning and Legal Context.

The mature trees within this area should be retained. Each mature, native tree should have a buffer zone to protect the tree's roots from development. It is important that a buffer zone is in place to address health & safety issues of future tree loss impacting on development properties. New areas of tree planting should compensate for the loss of the scattered trees within the parcel. All planting should

be native and sourced locally. Please refer to the section on tree preservation and protection within Planning and Legal Context.

Warwickshire Museum's geologist should be consulted over any development / excavation in this area, with a view to (a) establishment of new records for Warwickshire Museum's Geological Localities Record Centre (GLRC), (b) collection of geological samples for Warwickshire Museum's collection and (c) assessment of new geological exposures as LGS. The Blue Lias Formation and underlying Late Triassic strata are of special interest with respect to their potential for geological and palaeontological information gain.

Conclusion

The area named 'North-West', part of Southam, has a couple of areas of valuable grassland that should be protected and buffered from development. Any development within this section should buffer sufficiently for the River Stowe. The outcome of further intensive surveys will determine the value of the hedgerows and which should be retained. Results of the bird surveys will inform retention of particular arable fields.

Any development should take account of the area's geodiversity, through consultation with Warwickshire Museum's geologist.

All habitats and features identified as being used by protected, nationally or locally important species will need to be protected and enhance before, during and after any development of this area. Any accepted loss will need to be compensated and mitigated for. These features will also need to remain connected within the wider landscape.

4.0 References

Warwickshire Landscape Guidelines: Arden; Feldon; Avon Valley

Planning Policy Statement 1 (PPS1) "Delivering Sustainable Development", 2005

Planning Policy Statement 3 (PPS3) "Housing", 2006

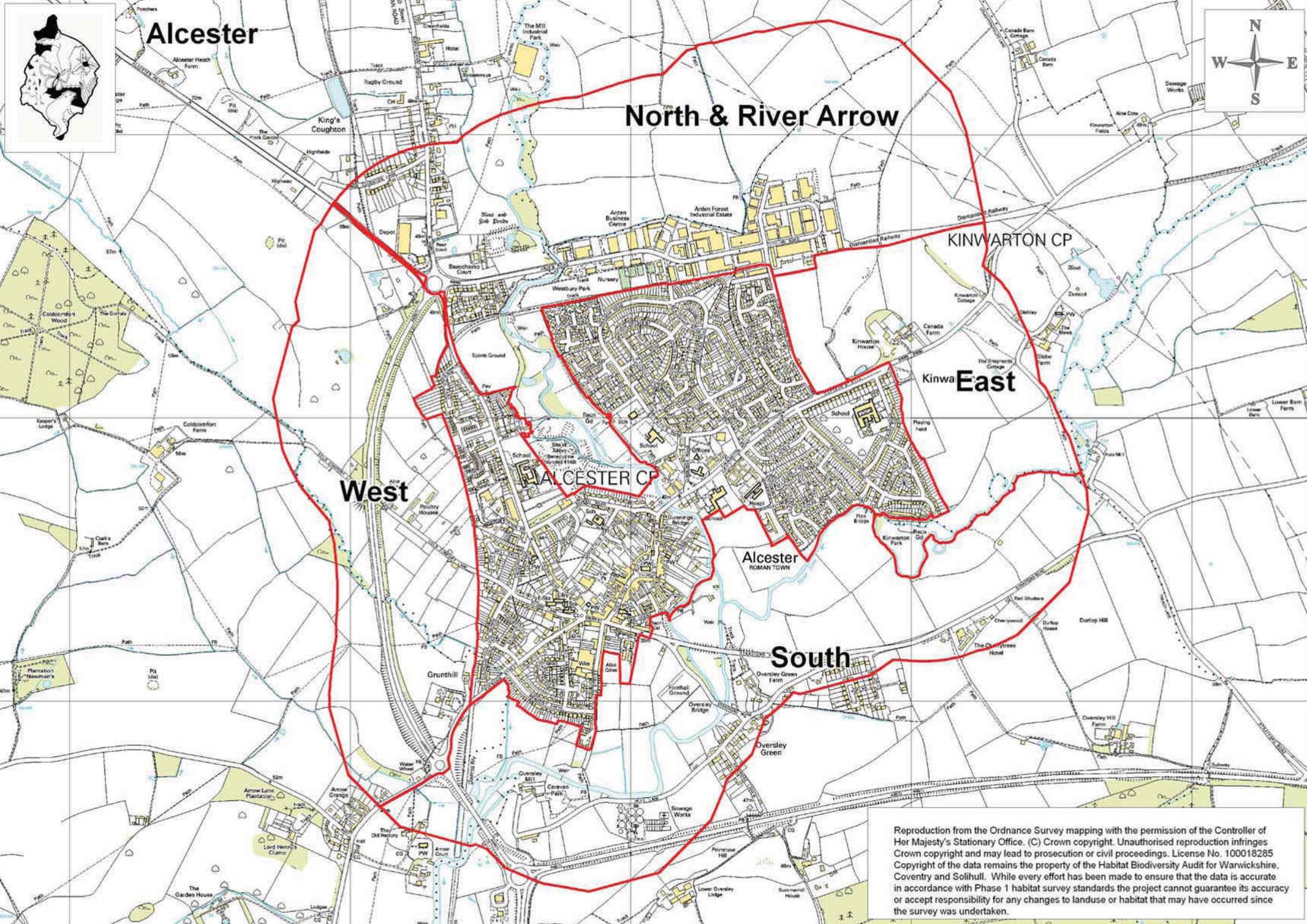
Habitat Biodiversity Audit for Warwickshire, Coventry and Solihull 2009

Species records, Warwickshire County Council Museum Services, Ecology team

Defra (2001). The Hedgerows Regulations 1997: a guide to the law and good practice. HMSO, London.

Defra – Local Sites – Guidance on their Identification, Selection and Management, 2006

Handbook for Phase 1 Habitat Survey: A technique for environmental audit (Nature Conservancy Council, 1990)



Alcester

North & River Arrow

KINWARTON CP

Kinwa East

West

ALCESTER CP

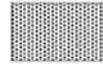
Alcester ROMAN TOWN

South

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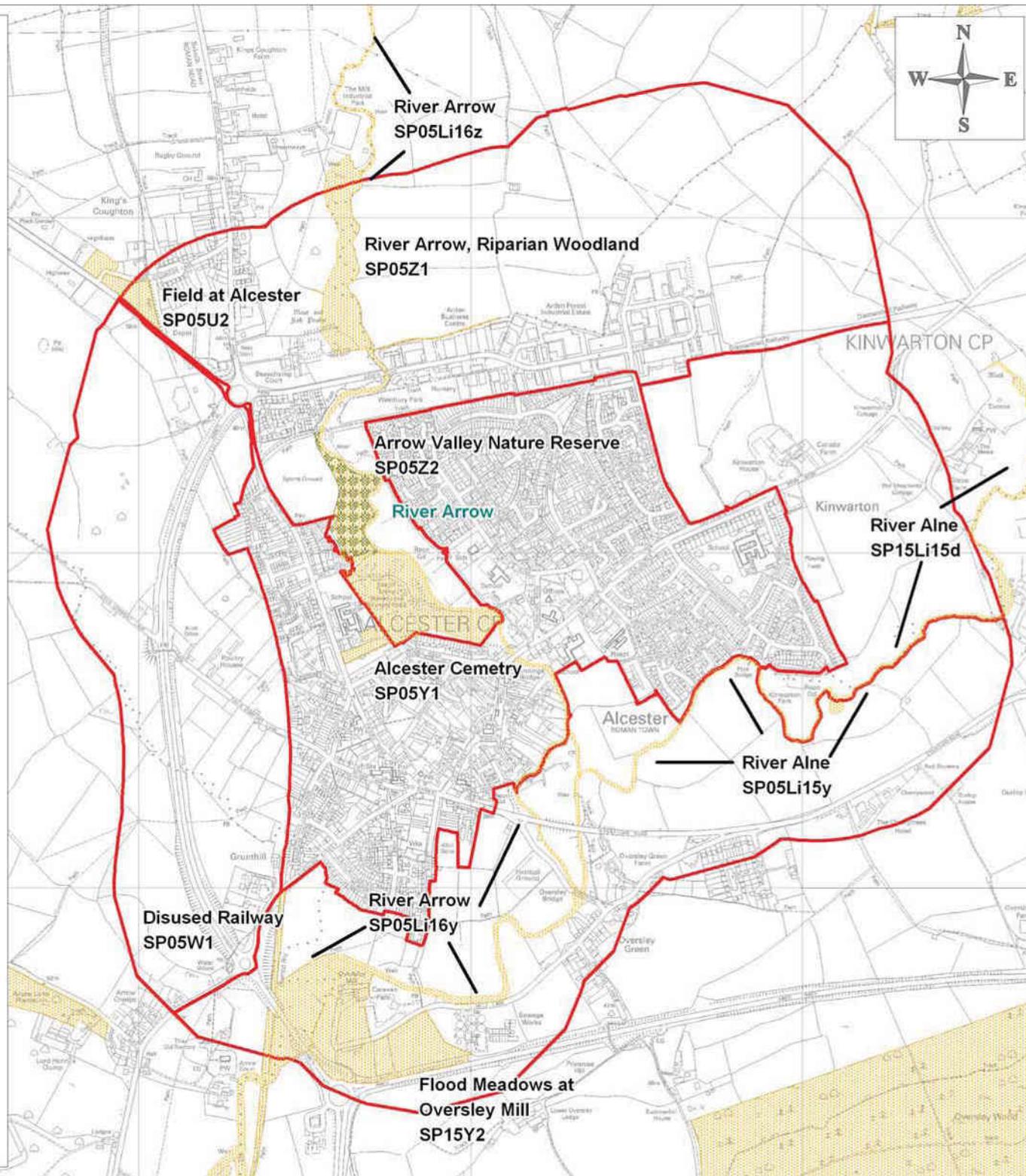


Alcester Local Sites

-  Potential Local Wildlife Site (pLWS/SINC)
-  Local Wildlife Site (LWS/SINC)
-  Rejected potential Local Wildlife Site
-  Destroyed Local Wildlife Site
-  SSSI
-  RIGS
-  LNR

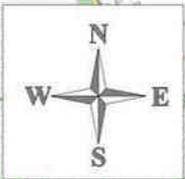
NB River Arrow and River Alne have now been designated as Linear LWS/SINC and are awaiting digitisation in mid to late 2010.

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Alcester - HBA



Phase I Habitat Survey

Habitat Types

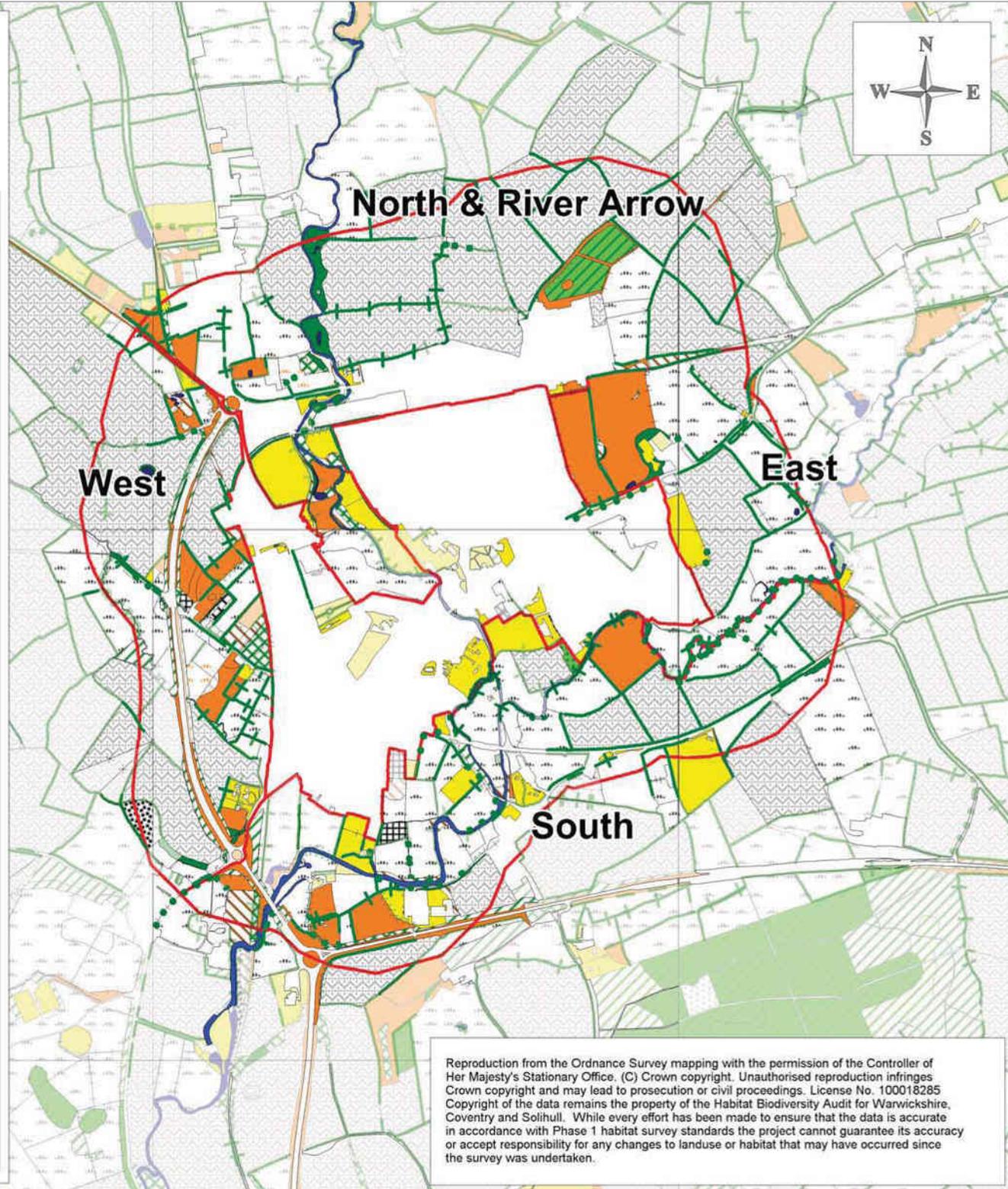
	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		

NB Data with a survey date before 2005 is displayed with muted tones



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Alcester North & River Arrow

Area: 171.6 hectares



Phase I Habitat Survey

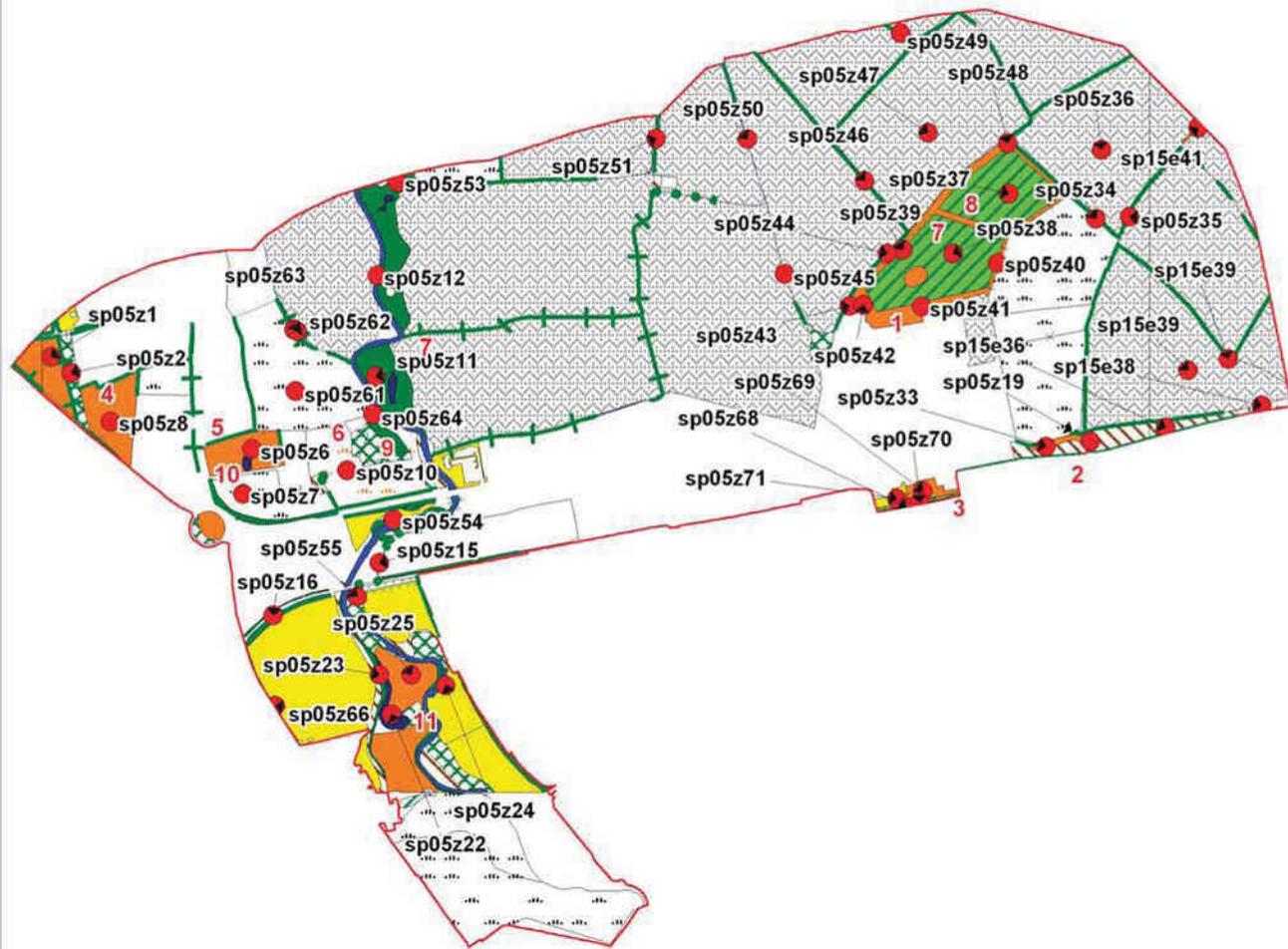
Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
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	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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Alcester North & River Arrow

Species

 Buffer zone for otter, water vole
or white-clawed crayfish

 Buffer zone for great crested newt,
adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

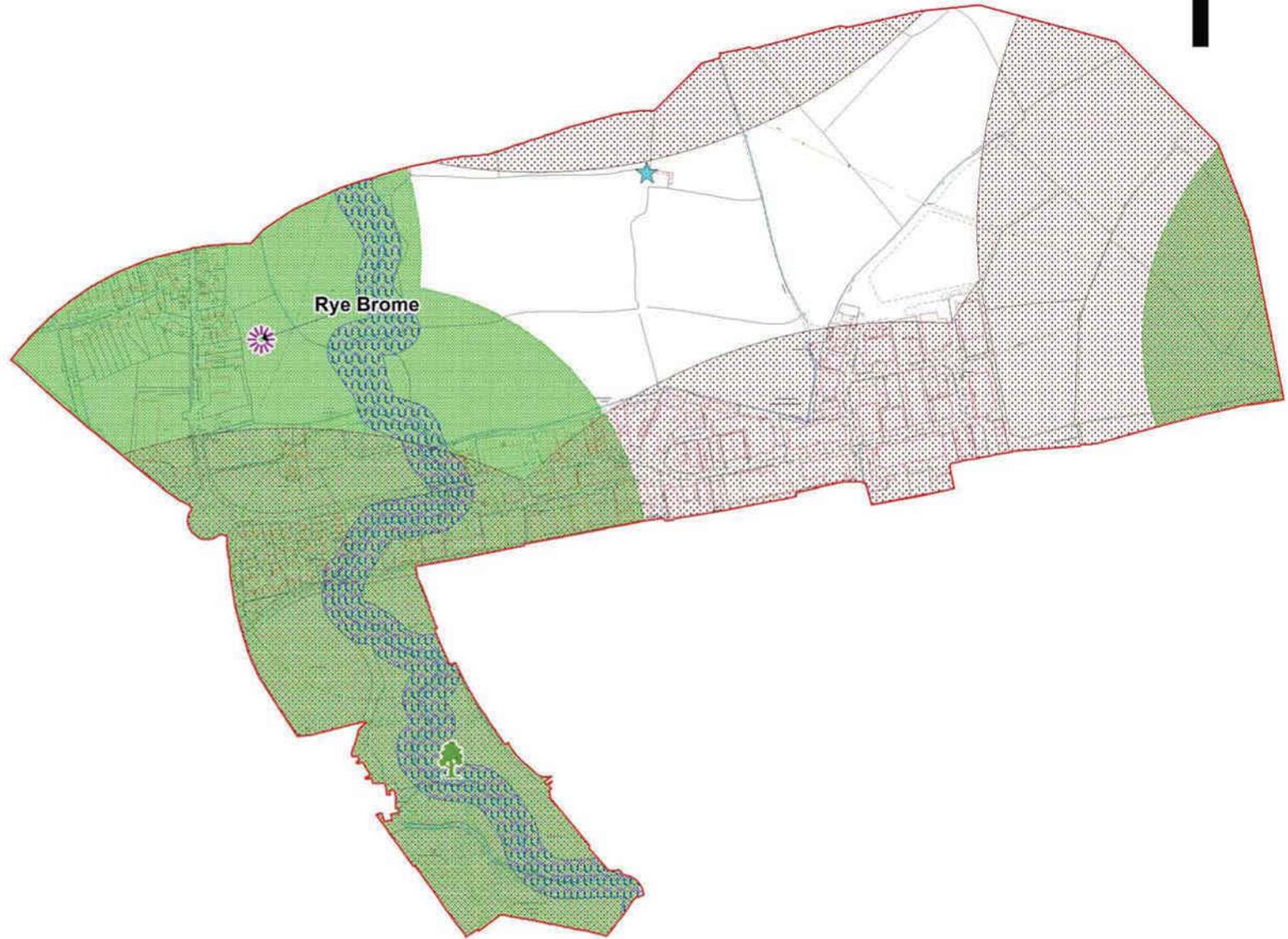
 Barn Owl

 BAP Butterfly

 Black poplar

 Veteran tree

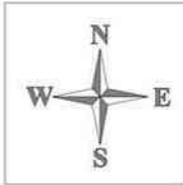
 County rare plant





Alcester East

Area: 64.4 hectares



Phase I Habitat Survey

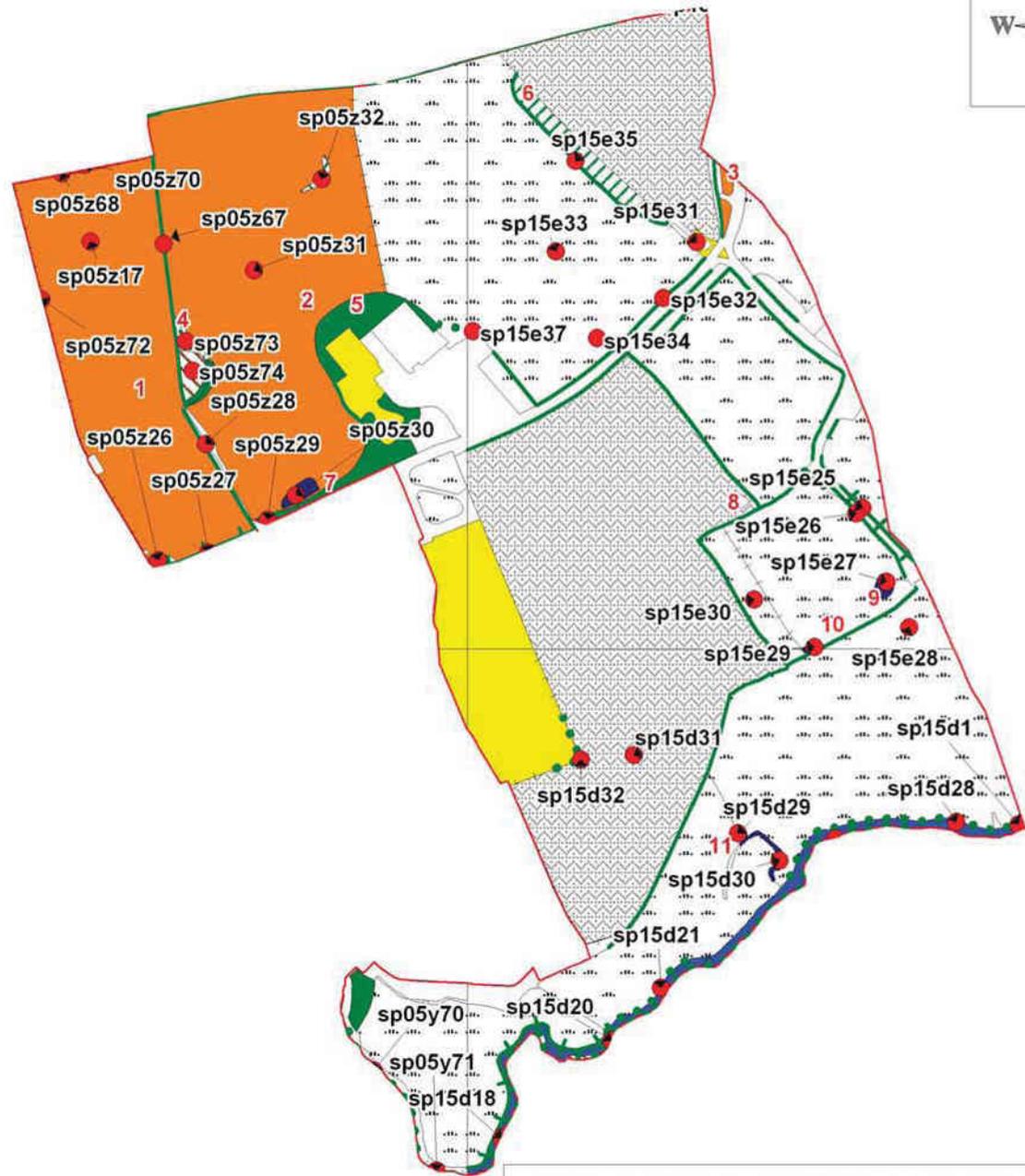
Habitat Types

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	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
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	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
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	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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Alcester East

Species



Buffer zone for otter, water vole
or white-clawed crayfish



Buffer zone for great crested newt,
adder, grass snake or slow worm



Buffer zone for bat



Brown Hare



Reptile/amphibian



Barn Owl



BAP Butterfly



Black poplar

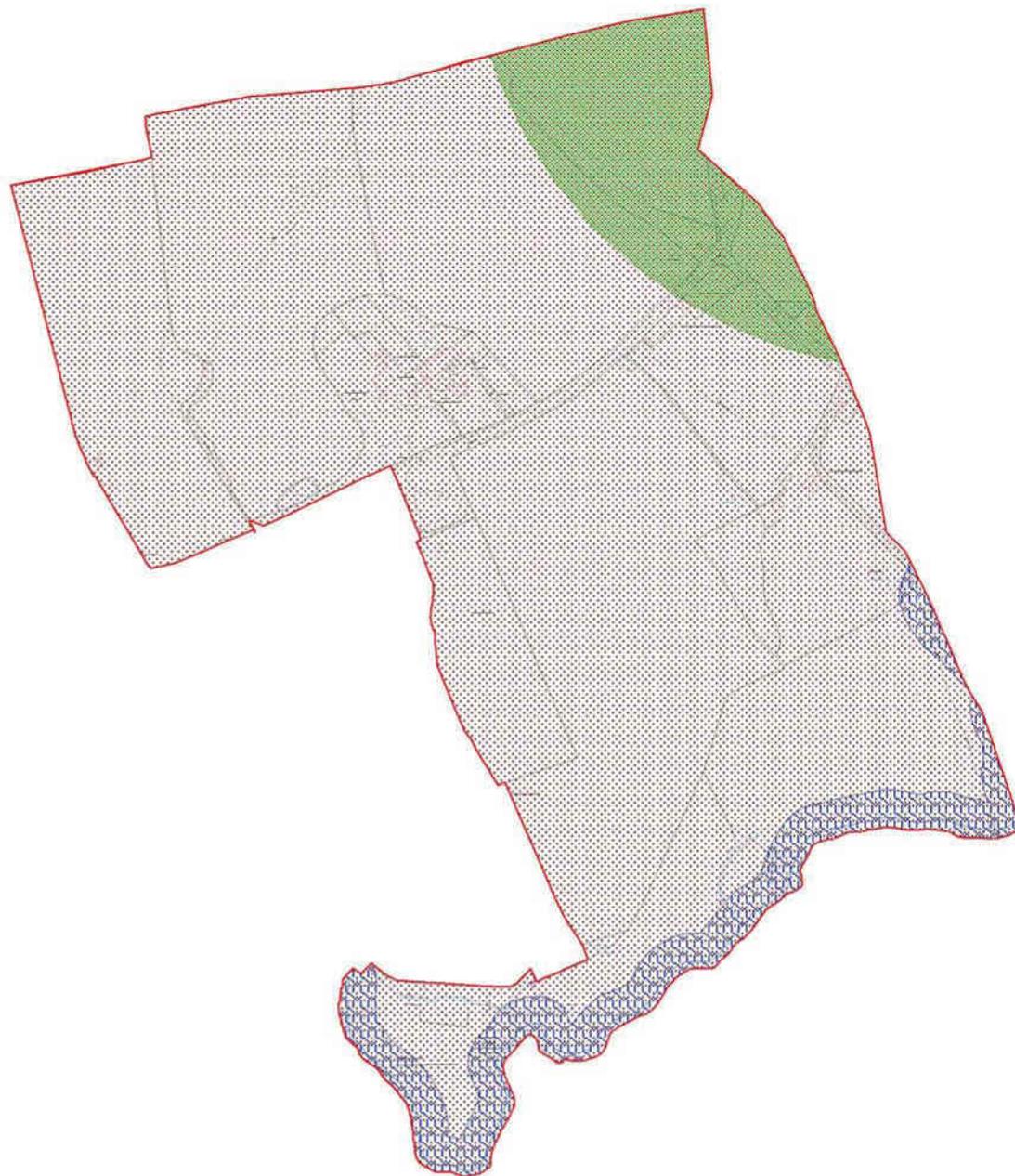


Veteran tree



County rare plant

Warwickshire Biological Records Centre
Museum Field Services
The Butts
Warwick
CV34 4SS
Tel: (01926) 418060
Fax: (01926) 412975



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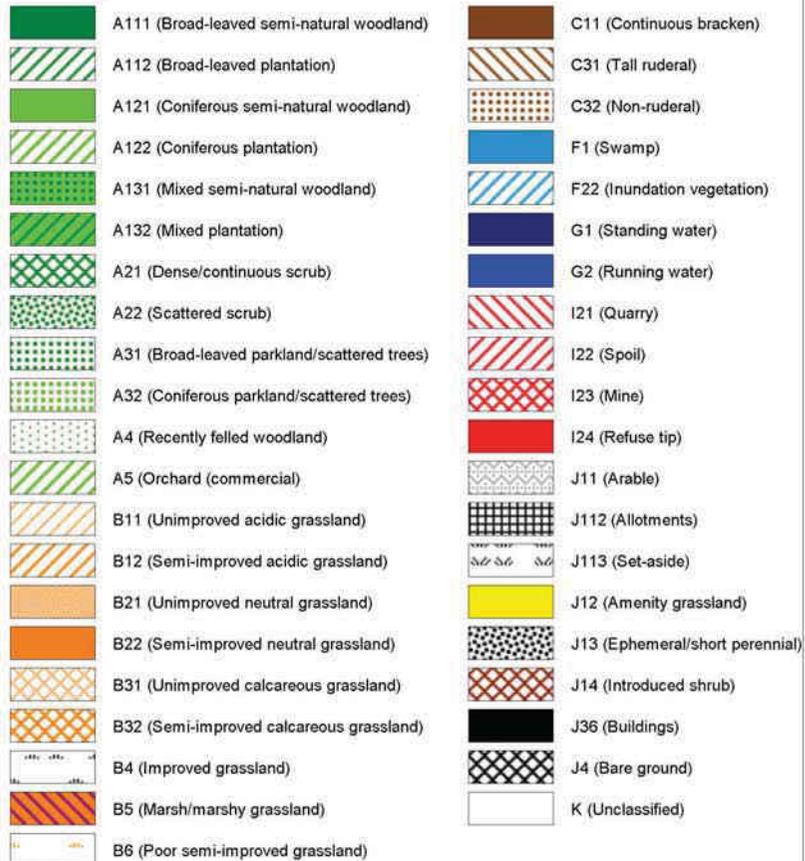
Alcester South

Area: 138.3 hectares



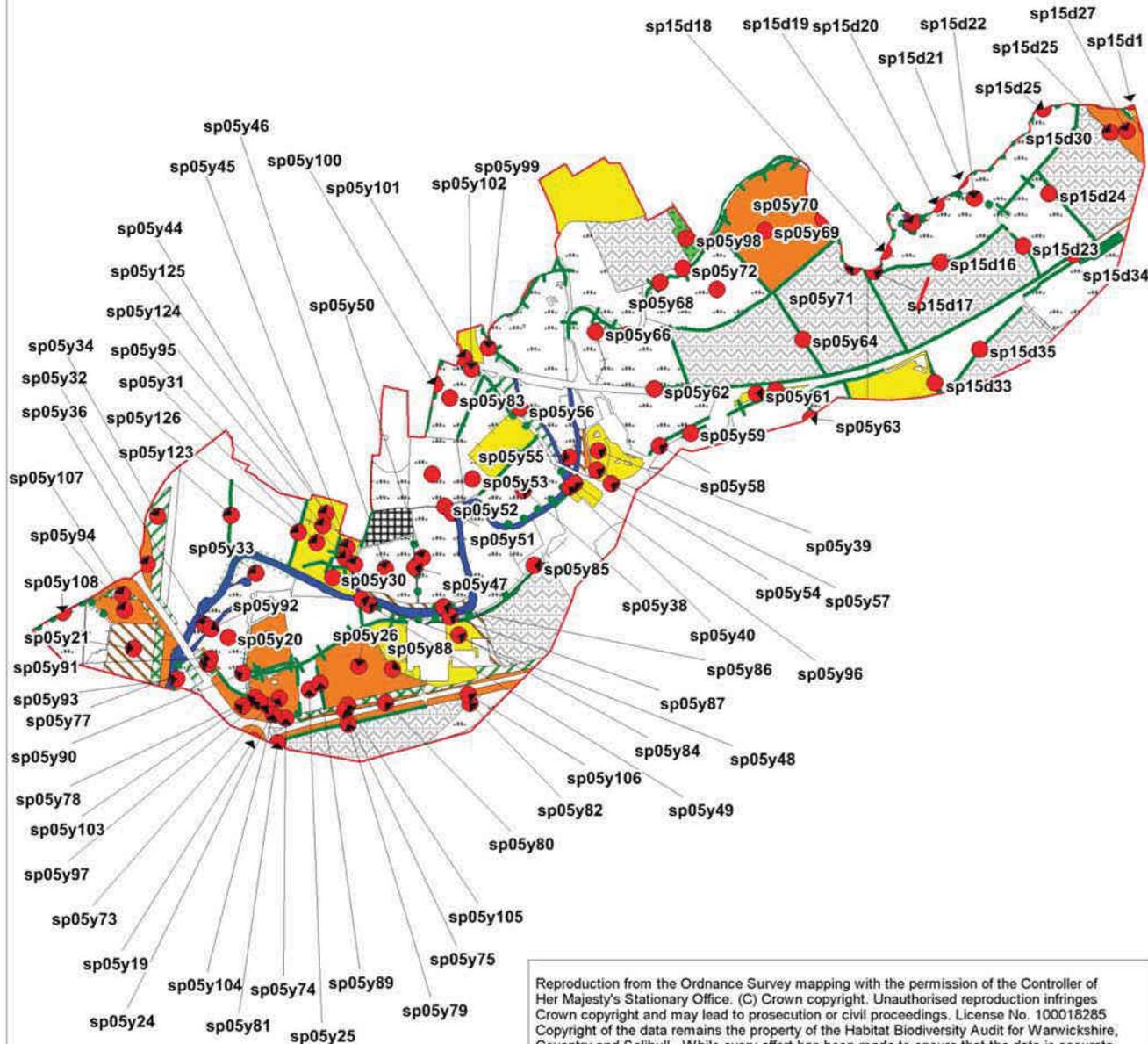
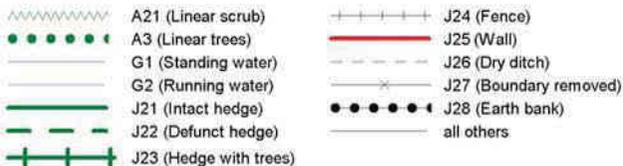
Phase I Habitat Survey

Habitat Types



Phase 1 Habitat Survey

Linear Features



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Alcester South

Species

 Buffer zone for otter, water vole or white-clawed crayfish

 Buffer zone for great crested newt, adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

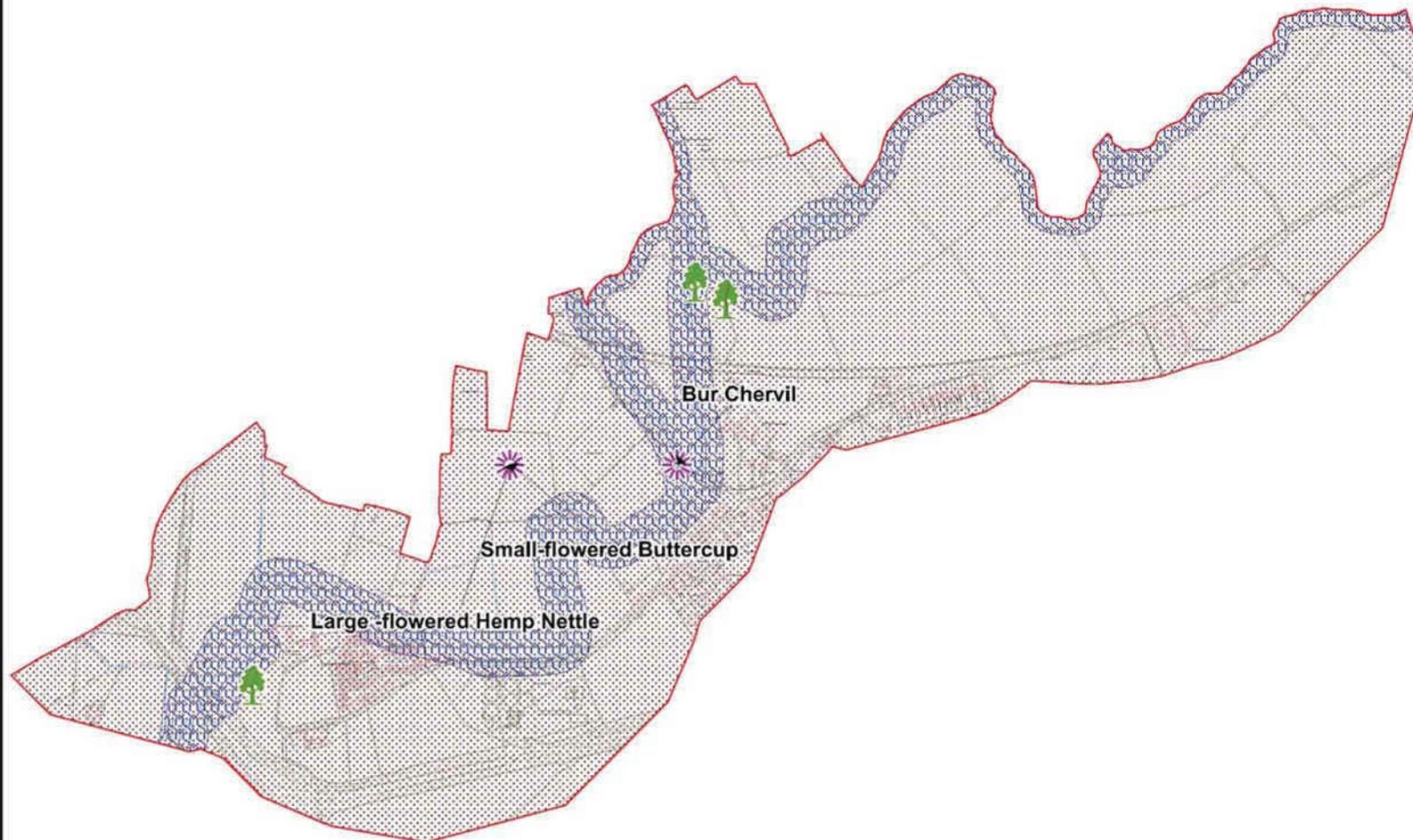
 Barn Owl

 BAP Butterfly

 Black poplar

 Veteran tree

 County rare plant



Warwickshire Biological Records Centre
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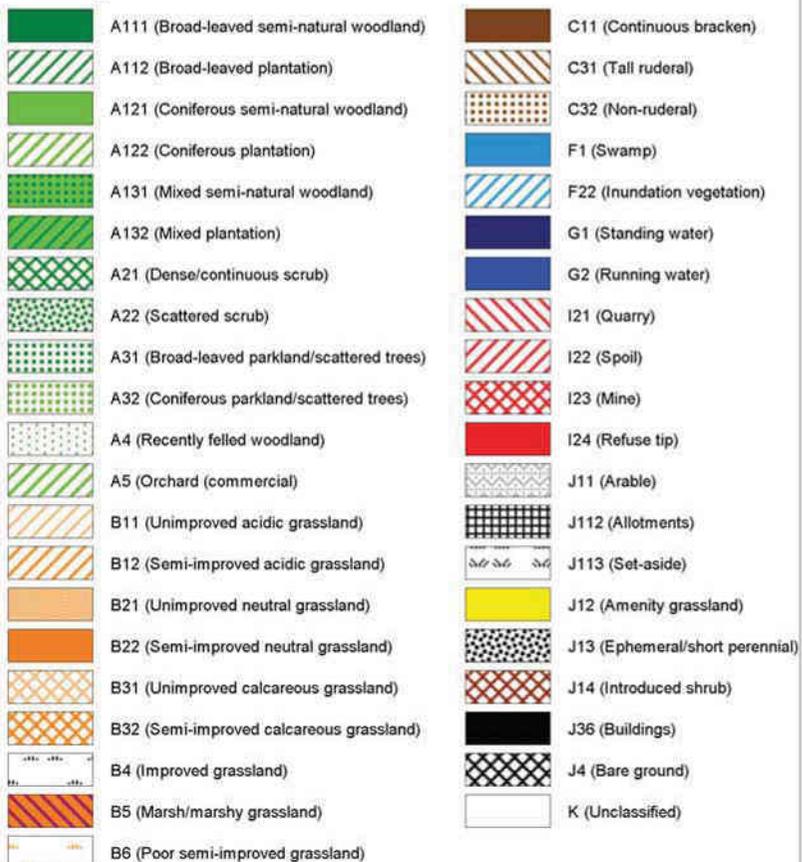


Alcester West

Area: 98.0 hectares

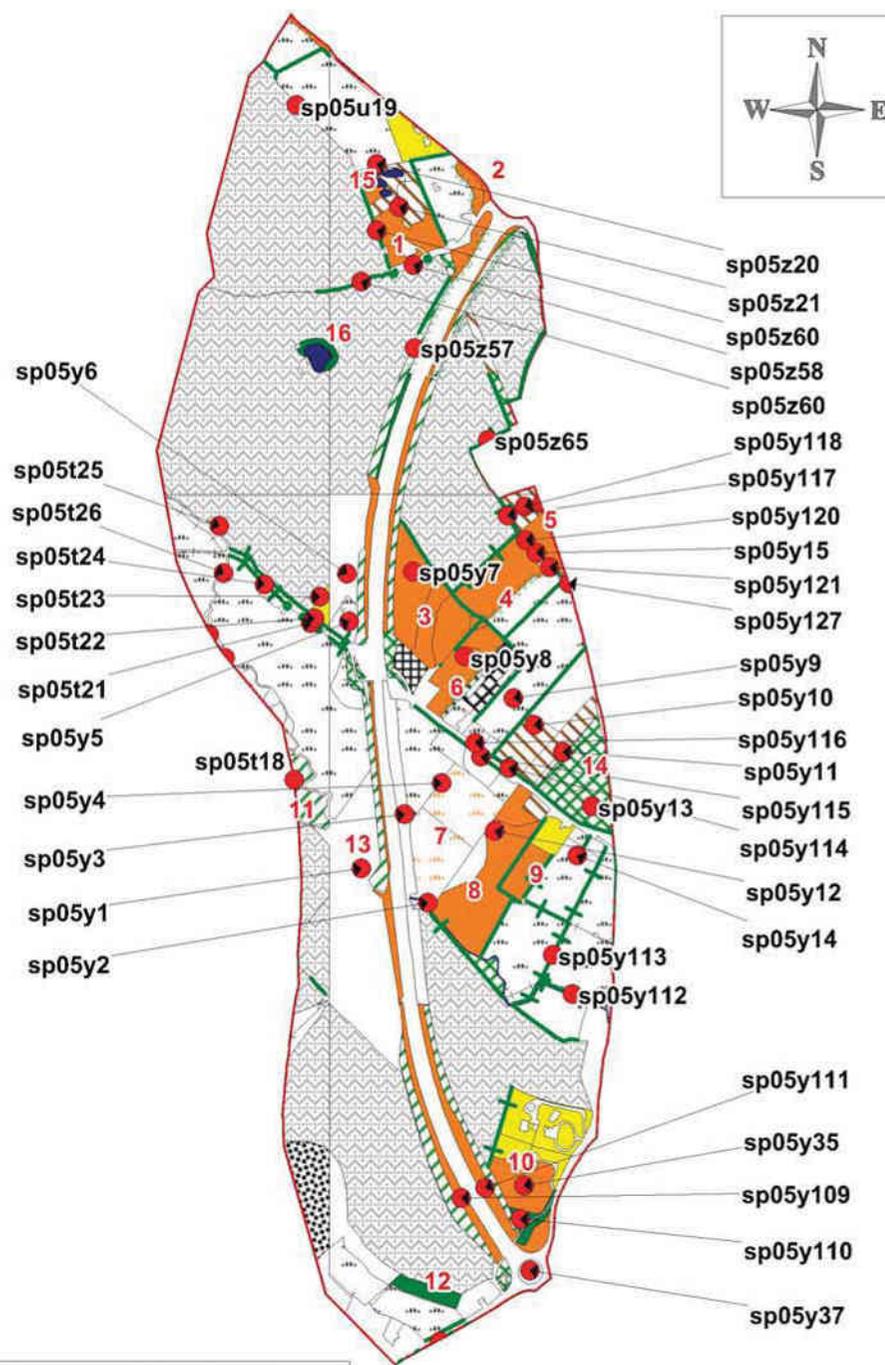
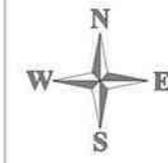
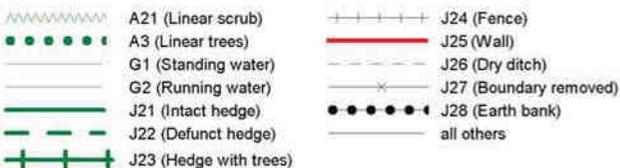
Phase I Habitat Survey

Habitat Types



Phase 1 Habitat Survey

Linear Features



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Alcester West

Species



Buffer zone for otter, water vole
or white-clawed crayfish



Buffer zone for great crested newt,
adder, grass snake or slow worm



Buffer zone for bat



Brown Hare



Reptile/amphibian



Barn Owl



BAP Butterfly



Black poplar

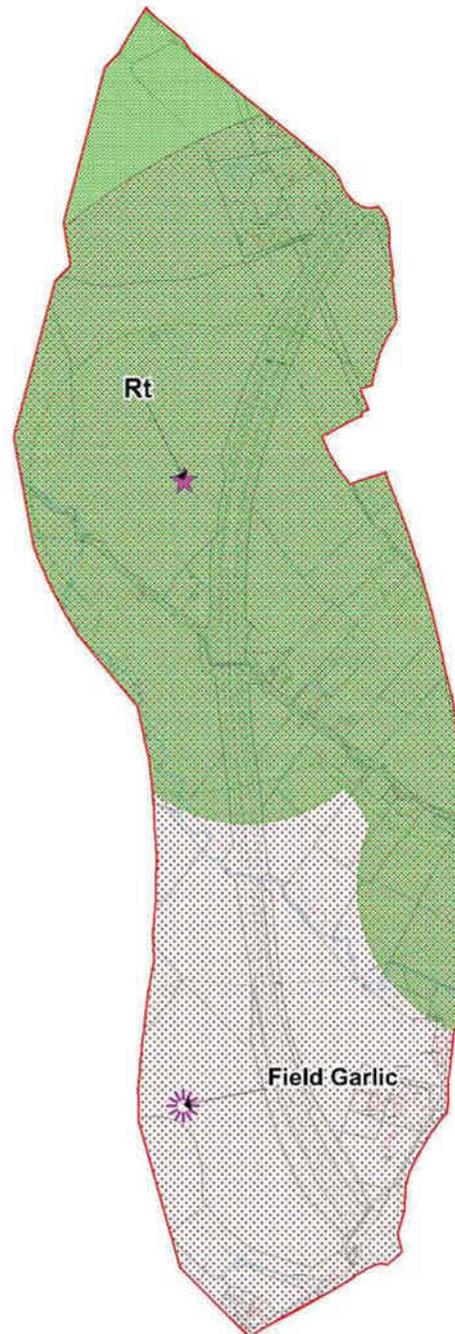


Veteran tree



County rare plant

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Key for Reptile/Amphibian species

Tv	<i>Triturus vulgaris</i> (AKA <i>Lissotriton vulgaris</i>)	Smooth Newt
Rt	<i>Rana temporaria</i>	Common Frog
Bb	<i>Bufo bufo</i>	Common Toad
Lv	<i>Lacerta vivipara</i> (AKA <i>Zootoca vivipara</i>)	Common Lizard

Key for Red Listed and UK BAP Butterfly species

Please note that Small Blue and Dingy Skipper are also LBAP species

Cm	<i>Cupido minimus</i>	Small Blue
Cp	<i>Coenonympha pamphilus</i>	Small Heath
Et	<i>Erynnis tages</i>	Dingy Skipper
Lc	<i>Limenitis camilla</i>	White Admiral
Lm	<i>Lasiommata megera</i>	Wall
Pm	<i>Pyrgus malvae</i>	Grizzled Skipper
Swa	<i>Satyrion w-album</i>	White-letter Hairstreak

Appendix of Target Notes Relating to Phase 1 Habitat Survey Maps

(in alpha-numeric order)

Alcester Target Notes

SP05U

- 1.) An old orchard with few apple trees left over close; horse cropped pasture.
- 2.) Shallow pond in a deep depression with elder and hawthorn scrub; nettle and bramble at a distance from the waters edge. There is little open water with *Carex riparia* spreading from the margins.
- 3.) Cattle grazed pasture with *Poa* spp.; *Festuca rubra* and occasional *Dactylis glomerata* and *Holcus lanatus*.
- 4.) Ungrazed rough grassland with frequent *Alopecurus pratensis*; *Dactylis glomerata* and *Arrhenatherum elatius*. Forbs are scarce and include common vetch and dock.
- 5.) Areas of semi-natural broad-leaved woodland within Cold Comfort Wood consisting of mature oak with birch and old a hazel coppice understorey with occasional field maple. Frequent bluebell; nettle patches; *Milium effusum*; *Dryopteris filix-mas*; bramble and wood dock can be found with occasional *Deschampsia cespitosa*; figwort; bugle; wood spurge; primrose and patches of dog mercury; *Melica uniflora* and *Brachypodium sylvaticum*.
- 6.) Larch plantation within Cold Comfort Wood with bramble; wood sage and occasional bluebell and greater stitchwort.
- 7.) Poplar; oak and birch plantation with a hazel understorey. Ground flora includes frequent *Dryopteris filix-mas*; red campion and occasional *Juncus effusus*; *Deschampsia cespitosa*; *Milium effusum* and bluebell. *Carex pendula* can be found in areas of impeded drainage.
- 8.) An area of larch; birch and oak plantation within Cold Comfort Wood; with nettle; bramble and wood sage beneath.
- 9.) Recently felled and replanted area within Cold Comfort Wood. Saplings include cherry and oak. The ground flora consists of *Poa trivialis*; *Juncus effusus*; *Deschampsia cespitosa* and *Holcus lanatus*. The area seemed especially rich in invertebrates including ichneumons such as *Rhagium inquisitor*.
- 10.) Recently felled area replanted with birch; cherry; ash; sweet chestnut and spruce with hazel growing through.
- 11.) Dense hawthorn scrub; with patches of *Arrhenatherum elatius*; *Dactylis glomerata* and *Alopecurus pratensis*.
- 12.) Very dense wide hedge of hawthorn; field maple; blackthorn and elder with occasional oak and ash.
- 13.) A rich meadow reportedly used as winter grazing for sheep; containing abundant *Anthoxanthum odoratum* and yellow rattle with frequent sorrel; meadow and bulbous buttercup; bush and common vetch; *Bromus mollis*; *Holcus lanatus* and *Alopecurus pratensis*. Also present are black medick; *Dactylis glomerata*; pignut; germander speedwell and red clover.
- 14.) Visited on 20/07/09. Very poor semi-improved grassland, grazed by cattle. Hay meadow with frequent *Anthoxanthum odoratum*; *Alopecurus pratensis*; meadow and bulbous buttercup; *Bromus mollis*; sorrel; pignut and occasional yellow rattle; *Dactylis glomerata*; black medick and bird's-foot trefoil.
- 15.) An area of semi-improved meadow that has suffered from past soil disturbances and is now dominated by *Dactylis glomerata*; *Arrhenatherum elatius*

and *Elytrigia repens* with frequent bulbous buttercup; patches of nettle and dock.

16.) A recently excavated fishing lake surrounded by willow scrub. There was no aquatic vegetation at the time of survey but emergent species include *Typha latifolia*; *Carex riparia*; *Glyceria maxima* and *Juncus effusus*.

17.) No access. Part of Coughton Park; this area consisting of mixed plantation.

18.) No access. A survey undertaken in 1989 describes the wood as mature broad-leaved woodland with oak and cherry together with coppiced hazel and Midland hawthorn. The ground flora was said to be dominated by bluebell with primrose; ransoms; dog violet and lesser celandine. A ride 3 - 5 metres wide ran through the wood allowing more light through the canopy. There was a few decaying birch

Visited on 20/07/09 by LCS. Hedge with one small gap.

SP05Z

1.) A rich meadow reportedly used as winter grazing for sheep; containing abundant *Anthoxanthum odoratum* and yellow rattle with frequent sorrel; meadow and bulbous buttercup; bush and common vetch; *Bromus mollis*; *Holcus lanatus* and *Alopecurus pratensis*. Also present are black medick; *Dactylis glomerata*; pignut; germander speedwell and red clover.

2.) Old railway cutting now overgrown with hawthorn and elder scrub and ash over nettle and bramble.

Visited on 20/07/09 by LCS. Very species poor semi-improved grassland. Cattle grazed.

3.) Narrow strip of rough grassland with patches of tall ruderal and hawthorn scrub with mounds of dumped topsoil and garden waste. The site is dominated by *Arrhenatherum elatius*; *Dactylis glomerata* and *Elytrigia repens* with nettle and cow parsley and occasional ox-eye daisy; alkanet; common vetch; fumitory and mayweed. The hedge is comprised of ash; oak; blackthorn; hawthorn and elm.

Visited on 13/07/09 by LCS. Large pond with emergent species including, on north side: great bulrush, with marginal species comprising rough grasses, bramble, spear and creeping thistle. South side is shaded by scrub and trees including hawthorn, sycamore, oak and elder. No visible aquatic vegetation due to murkiness. Visited on 13/07/09 by LCS.

Semi-improved grassland of tall grasses and some willow saplings, including false oat-grass, Yorkshire fog and *Festuca* spp., and herbs including selfheal, smooth tare, bird's-foot-trefoil, common centaury, common ragwort, creeping buttercup, and creeping thistle and abundant white clover areas. Bristly oxtongue at edges. Good for butterflies (meadow brown and marbled white recorded) and bumblebees. Rabbit seen. Visited on 13/07/09 by LCS. Mainly hawthorn, elder, nettle, and creeping thistle. Visited on 13/07/09 by LCS.

Semi-improved grassland including musk mallow, perforate St John's wort, teasel, creeping cinquefoil, common ragwort, and rose scrub. Visited on 13/07/09 by LCS. With ash trees, one with bat potential (hole in trunk and branches). Visited on 13/07/09 by LCS.

Includes black bryony. Visited on 13/07/09 by LCS. Skylark in flax field. Visited on 13/07/09 by LCS. Mixed plantation woodland with a semi-improved grassland understorey. Planted trees include cherry, sycamore, ash, oak, and *Pinus* spp. Species rich grassland with black meddick, oxeye daisy, creeping cinquefoil, ribwort plantain, tufted vetch, greater bird's-foot-trefoil, St John's wort sp., wild parsnip, selfheal, red and white clover, bristly oxtongue, and creeping buttercup. Frequent butterflies, including gatekeeper.. Plantation approx 5 years old. Visited on 13/07/09 by LCS. Similar to sp05z37, and with pyramidal

orchid at edge. Visited on 13/07/09 by LCS. No hedgerow. Tall ruderals. Hedge bindweed, false oat-grass and nettle along bank. Track is mown, poor semi-improved grassland. Common knapweed, meadow vetchling, lady's bedstraw.

4.) Closely horse grazed grassland; mostly *Poa* spp.; *Dactylis glomerata*; *Holcus lanatus*; bulbous buttercup and daisy with areas of nettle; broad-leaved dock and hogweed.

Visited on 13/07/09 by LCS. Mown, short cut semi-improved grassland track. Visited on 13/07/09 by LCS. Mown, poor semi-improved grassland track. Visited on 13/07/09 by LCS. Spoil heaps. Visited on 13/07/09 by LCS. Scrub, including hawthorn, burdock, and Japanese knotweed. Visited on 13/07/09 by LCS. Hedge by wet ditch. Ditch has steep earth banks with no visible aquatic vegetation. Ditch has nearly dried out. Fern sp., Willowherb sp., meadowsweet, soft rush, and figwort sp. present in ditch. Tall unmown grasses and common nettle along edge of ditch. Visited on 13/07/09 by LCS. Intact hedge with wide field margin. Dead tree with bat potential. Visited on 13/07/09 by LCS. Intact hedge with wide damp ditch. Standard oak. Visited on 13/07/09 by LCS. Skylark. Visited on 13/07/09 by LCS. Hawthorn and elder scrub. Visited on 13/07/09 by LCS. Intact hedge with standard oaks.

5.) Disturbed ground with frequent *Dactylis glomerata*; *Arrhenatherum elatius*; *Elytrigia repens*; *Poa* spp. and patches of nettle; cow parsley; red and white campion.

Visited on 13/07/09 by LCS. Intact hedge with well vegetated wet ditch., inc. great willowherb and soft. Nice wide field margin including abundant creeping buttercup, dock sp., and occasional figwort and spear thistle.. Area at north end dominated by field horsetail. Visited on 13/07/09 by LCS. Hedgerow with old laid hawthorn and field maple in hedge. gaps have been planted up in last 1-2 years with hawthorn. Good, thin grassland strip along hedgerow with species including common knapweed, musk mallow, lady's bedstraw and rough grasses. Visited on 13/07/09 by LCS. River - clear with willow and nettle on banks. frequent Himalayan balsam. Visited on 13/07/09 by LCS. Woodland path overgrown with nettles. Visited on 13/07/09 by LCS. Amenity grassland park with patches of scattered woodland. Species include alder, oak, hawthorn, willow, hazel. Visited on 13/07/09 by LCS. Scrub with several mature oak trees. Visited on 13/07/09 by LCS. School grounds with planted trees at boundary - rowan, poplar sp., and lime. Visited on 13/07/09 by LCS. Broad-leaved plantation, including dominant silver birch, oak, and cherry sp. Visited on 20/07/09 by LCS. *Leylandii* plus hawthorn and elm trees. Visited on 20/07/09 by LCS. Intact hedge with standard oaks.

6.) Poor semi-improved grassland with abundant *Alopecurus pratense* and frequent *Bromus mollis*; *Poa pratensis* and *Dactylis glomerata*. Forbs are limited to bulbous and meadow buttercup and common mouse-ear. The small shallow pond contains *Juncus effusus* and *Glyceria* sp.

Visited on 20/07/09 by LCS. Unmanaged and overgrown species poor semi-improved grassland. Mature ash. Visited on 20/07/09 by LCS. Tall and bushy hedgerow. Visited on 20/07/09 by LCS. Two buzzards seen. Visited on 20/07/09 by LCS. Hedge with trees along bank of brook. Earth banks. Becomes linear trees towards eastern end. Visited on 20/07/09 by LCS. Tall ruderal strip along brook. species include redshank, willowherb sp and sow thistle sp. Visited on 20/07/09 by LCS. Tall ruderal patch with ash and blackthorn. Visited on 31/07/09 by LCS. Strip of plantation and semi-improved grassland verge. very tall and dense, species rich, including mature oak, hawthorn, hazel, field maple, *Prunus* sp., elder and guelder rose. Speckled wood recorded. Visited on 20/07/09 by LCS. Short trimmed hedge along fence. Visited on 20/07/09 by LCS. Tall, bushy hedge

inc. apple sp. Visited on 20/07/09 by LCS. Tall wire fence. reptile carpet tiles down at time of survey. Visited on 20/07/09 by LCS. Tall semi-improved grassland.

7.) Poor semi-improved grassland with abundant *Alopecurus pratense* and frequent *Bromus mollis*; *Poa pratensis* and *Dactylis glomerata*. Forbs are limited to bulbous and meadow buttercup and common mouse-ear.

Visited on 20/07/09 by LCS. Strip of mixed native and ornamental trees including ash, hawthorn, silver birch, conifers, and willow sp & *Pinus* sp. Visited on 20/07/09 by LCS.

Amenity grassland with young planted trees. Visited on 20/07/09 by LCS. Post and wire fence with strip of grassland left unmown. Visited on 20/07/09 by LCS. Blackthorn

dominated area of scrub with little ground flora, mainly bare soil. Lots of rabbit activity. frequent lords-and-ladies, and occasional violet. Drinks bottles. With appropriate

management, this could be improved and become excellent for wildlife. Visited on 20/07/09 by LCS. Nettle patch.

8.) Apparently unmanaged grassland with frequent *Alopecurus pratensis*; *Dactylis glomerata*; *Arrhenatherum elatius* and occasional *Festuca rubra*; *Bromus mollis*; *Anthoxanthum odoratum* and *Deschampsia cespitosa*. Forbs are limited to occasional bulbous buttercup; creeping thistle and common mouse-ear.

9.) Poor semi-improved pony grazed pasture on old flood meadow. Contains frequent *Dactylis glomerata*; *Phleum pratense* and *Poa pratense*.

10.) Poor semi-improved grassland with abundant *Alopecurus pratense* and frequent *Bromus mollis*; *Poa pratensis* and *Dactylis glomerata*. Forbs are limited to bulbous and meadow buttercup and common mouse-ear.

11.) Wet woodland with ash; alder and willow and hawthorn beneath. The ground flora is dominated by nettle with patches of ransom; red campion and yellow archangel.

12.) River Arrow. The river has been resectioned and reinforced in sections with concrete and rip-rap. Further to the north away from Alcester there are good glide - riffle sequences with shingle side-bars. There is good tall ruderal cover along much of the bank. Kingfisher seen during the survey.

13.) Tall ruderals along the river bank such as nettle; cow parsley; hogweed; butterbur and occasional teasel and hemlock. There is also scattered elder; alder and willow scrub with the occasional mature pollarded willow.

14.) Alder; willow and poplar over tall ruderals.

15.) An area of hawthorn and elder scrub over cow parsley; nettle; hogweed and butterbur.

16.) Old railway line now with a metalled footpath; lined with hawthorn; blackthorn and elder scrub over ivy; wood avens; nettle; creeping buttercup; bramble; herb Robert and occasional *Dryopteris filix-mas*.

17.) Rough unmanaged grassland dominated by *Arrhenatherum elatius*; *Dactylis glomerata* and *Elytrigia repens* with occasional *Festuca rubra*; *Holcus lanatus* and *Bromus mollis*. There is occasional creeping cinquefoil; common mouse-ear; creeping thistle and cow parsley.

Visited on 17/07/09 by LCS. Grasshoppers abundant in this semi-improved grassland.

18.) Old orchard over nettle; cow parsley and hogweed.

19.) Disused railway dominated by nettle; hogweed; cow parsley and occasional teasel and burdock and some encroaching elder scrub. To the west there are patches of *Arrhenatherum elatius*; *Elytrigia repens* and *Festuca rubra*.

20.) Two ponds suffering from run-off from the arable fields above; containing duckweed; *Juncus effusus*; *Glyceria* sp. and surrounded by tall ruderals such as nettle; hogweed; cow parsley and occasional white campion with dense bramble;

hawthorn and willow scrub to the north.

21.) Mosaic of cow parsley and nettle; and *Arrhenatherum elatius*; *Dactylis glomerata* and *Alopecurus pratensis*. Occasional short rabbit grazed patches contain *Festuca rubra*; bulbous buttercup and germander speedwell.

22.) Pond in local nature reserve surrounded by alder; willow and hawthorn. Gaps between the scrub are sheep grazed right up to the water's edge. Emergent vegetation includes bur-reed and *Juncus effusus*. The remains of the mill race on the west side of the pond is overgrown with nettle; garlic mustard; cow parsley and cleavers and occasional *Bromus ramosus* and red campion. The associated boggy area contains brooklime; creeping buttercup and great bittercress.

23.) Footpath and verge lined by ash; willow; hawthorn and blackthorn with occasional dogwood. The verge contains mostly tall herbs such as nettle; willowherb; dock and occasional burdock and teasel as well as red campion; creeping buttercup; cleavers; *Dactylis glomerata*; hedge woundwort and occasional *Phalaris arundinacea* and meadowsweet on the side next to the pond.

24.) River Arrow. Good glide - riffle sequences with shingle mid channel and side bars. The bank is dominated by nettle and occasional *Phalaris arundinacea* and Himalayan balsam.

25.) Sheep grazed flood meadow with *Poa* spp.; patchy *Cynosurus cristatus* and *Anthoxanthum odoratum* and few forbs (common mouse-ear; creeping cinquefoil; lesser celandine and occasional black medick; lady's bedstraw and germander speedwell.

Visited on 13/07/09 by LCS. Patch of bramble and common nettle. Visited on 13/07/09 by LCS. Tall bushy hedge. Species include hawthorn, blackthorn, privet. Visited on 13/07/09 by LCS. Laid hedgerow, to east of shaded track and parallel hedgerow. Species include hedge woundwort, ivy, wood dock, wood avens and herb Robert. two mature oaks in hedge. Visited on 13/07/09 by LCS. With mature pedunculate oak and Scots pine.

SP15D

1.) River Alne. Lined on the north bank by overhanging alder and willow and occasional hawthorn scrub; with improved grassland right up to the bank on the south. Emergent vegetation is limited to occasional *Schoenoplectus lacustris*. Visited on 23/07/09 by LCS. Peacock, gatekeeper, white veined and thistle.

2.) Appears to be a group of three small improved meadows with ridge and furrow. However they had been recently cut at the time of survey and would benefit from another visit earlier in the season.

Visited on 08/07/09 by LCS. Pollarded crack willow along bank. Visited on 08/07/09 by LCS. Alder and willow trees with large gaps in between along bank. Visited on 08/07/09 by LCS. Line of willow trees with no ground flora (bare ground). Visited on 08/07/09 by LCS. Hedge with one gap. Rabbit burrows. Field maple in hedge. Visited on 08/07/09 by LCS. Mole holes recorded. Visited on 08/07/09 by LCS. Hawthorn and willow trees, mature oak and ash along river. Visited on 08/07/09 by LCS. Lords and ladies recorded by road. Visited on 08/07/09 by LCS. Damp meadow consisting of semi-improved grassland which is recommended as a pLWS. There are abundant butterflies, including painted lady, skipper sp., meadow brown. Also damselflies, burnet moth and bumblebees. There are locally abundant patches of meadowsweet, and great burnet, in particular a wet flush in the middle of the meadow. Grasses include false oat-grass, cock's-foot, sweet vernal grass, bent sp., plus ribwort plantain, sedge sp., common knapweed, black medick, lady's

bedstraw, meadow vetchling, and common bird's-foot-trefoil. Diverse ground flora. Visited on 08/07/09 by LCS. Willow, hawthorn, dogwood, alder and poplar sp. Visited on 08/07/09 by LCS. Small patch of willow.

3.) A small triangular patch of semi-improved grassland with a large copper beech. There is abundant *Arrhenatherum elatius* and *Dactylis glomerata* with frequent black knapweed; agrimony; red clover; lady's bedstraw and occasional field horsetail and burnet saxifrage. A path leading off to the north-west to the river is hedged by dogwood; ash; field maple and hawthorn.

Visited on 08/07/09 by LCS. Site remains. Patch of semi-improved grassland. Species present include agrimony, bush vetch, herb Robert, hogweed, meadowsweet (frequent), gypsywort, and lords-and-ladies by the hedgerow. Leads to path which leads to river to the north. large dead wood pile. Visited on 08/07/09 by LCS. Common reed bed surrounded by alder and oak and hawthorn scrub. Visited on 08/07/09 by LCS. Arable field. Toad rush and pale flax locally frequent on margin. Visited on 08/07/09 by LCS. Arable field. Wooden fence around playing field, with planted oak and acer in SE corner. Visited on 08/07/09 by LCS. Strip of woodland. good for butterflies at edge - peacock and gatekeeper recorder. Visited on 08/07/09 by LCS. Hedge with a small number of standard trees. Along the road verge of the hedge is a strip of grassland including field scabious, lady's bedstraw, yarrow and lords-and-ladies. Potentially important hedgerow. Visited on 08/07/09 by LCS. Ornamental cherry laurel hedge by garden.

4.) An area of mostly coarse grasses; such as *Arrhenatherum elatius* and *Dactylis glomerata* with encroaching tall ruderal species. Derelict farm buildings to the north are overgrown with nettle; thistle; ragwort; dock and rosebay willowherb.

5.) Nightcap Wood. A small semi-natural wood situated on top of a small hill; consisting of mainly oak and ash standards with derelict hazel coppice beneath; as well as occasional hawthorn; elder; dogwood and crab apple. The ground vegetation is variable with patchy bramble and bracken on the eastern side with areas of dog mercury; herb robert and wood speedwell near the summit. From the top down to the western edge; cover is more continuous with occasional primrose; nettle-leaved bellflower; wood dock; burdock; *Poa nemoralis* and enchanter's nightshade. The wood is apparently used for pheasant rearing and is fenced off from the surrounding fields.

6.) Semi-natural broad-leaved woodland on a small hill; mostly mature oak with ash. Hawthorn; field maple; blackthorn and dog rose can be found along the western edge. The understorey is comprised of mostly derelict hazel coppice with occasional crab apple; guelder rose and patchy hawthorn. A fairly dense canopy has resulted in patchy ground vegetation of bluebell; dog mercury and bramble; with yellow pimpernel occurring in less shaded areas.

7.) Oversley Wood is comprised of a complex mosaic of mixed conifer; broad-leaved and remnant broad-leaved woodland on all sides of a small hilltop. The area near the main entrance in the north-east is largely broad-leaved plantation of sycamore with oak and patches of birch; aspen and cherry with occasional western red cedar and beech. The uneven understorey is of hazel and young sycamore with honeysuckle and occasional hawthorn and guelder rose; allowing a variety of ground vegetation beneath. This includes frequent bramble with *Dryopteris filix-mas*; barren strawberry; bluebell; dog violet; selfheal and occasional spurge laurel and wood sorrel. Grasses include *Bromus ramosus*;

Deschampsia caespitosa and *Milium effusum*. Along the northern edge *Melica uniflora* and wood anemone were found. The main ride leading from the entrance is lined by a grass verge with *Dactylis glomerata*; *Arrhenatherum elatius*; *Juncus articulatus*; greater bird's-foot-trefoil; *Carex remota* and occasional centaury; tormentil; wild angelica and devil's-bit scabious.

8.) An area of predominantly western red cedar plantation within Oversley Wood with oak; sycamore; cherry and hazel growing through. Some dense stands of cedar occur with little or no other species; while in other patches cedar is outnumbered by broad-leaved species. As a result understorey and ground vegetation species are patchy but dominated by bracken and bracken for the most part. Within this stretch there is an area of small-leaved lime and hazel coppice with occasional ash and a ground flora which includes bugle; primrose; *Bromus ramosus*; *Festuca rubra*; *Carex remota*; *Mnium hornum*; *Thuidium tamariscinum*. The rides in this area contain abundant *Holcus mollis*.

9.) A recently felled area within Oversley Wood with bracken dominating the top of the slope and hazel regrowth and bramble abundant at the bottom with *Deschampsia caespitosa*; *Dactylis glomerata*; dog violet; St. John's wort; barren strawberry; rosebay willowherb; *Dryopteris filix-mas* and red bartsia. Wayfaring tree can be found along the eastern edge near to the path.

Visited on 22/10/08 by JR. Area of semi-improved grassland.

10.) Central ridge of Oversley Wood. Stands of Scot's pine interspersed with oak; sycamore; ash; birch and hazel. Ground flora is largely restricted to bracken; except on the rides where *Juncus* spp.; yellow pimpernel; barren strawberry; tormentil and occasional early purple orchid can be found. Patches of agrimony grow on the ride leading down the southern slope. On the southern side of the ridge path there are occasional examples of ancient small-leaved lime coppice. Crossbills seen during the survey.

Visited on 22/10/08 by JR. Addition of wild service tree.

11.) Large area of Corsican pine; dense in places with scattered patches of broad-leaved species such as oak; ash; sycamore and hazel. The ground flora is uneven but largely dominated by bracken and wood sage. A small pond on the western edge is drying but still contains abundant *Glyceria* sp.; and is surrounded by willow; hazel and bramble. Southern hawker dragonfly; scorpion fly and dark bush cricket were seen during the survey. The rides in this area contain *Carex hirta*; *C. pendula* and red bartsia.

12.) An area of European larch plantation within Oversley Wood interspersed with oak; hazel; silver and downy birch; hawthorn and field maple with a varied and uneven ground vegetation; dominated in parts by bracken and wood sage.

13.) A stand of beech plantation with no discernible understorey and a patchy ground cover of bracken and wood sage.

14.) Large area of Corsican pine; dense in places with scattered patches of broad-leaved species such as oak; ash; sycamore and hazel. The ground flora is uneven but largely dominated by bracken and wood sage.

15.) Large area of young broad-leaved plantation comprised of aspen; birch and oak with occasional goat willow and hazel. There is abundant *Arrhenatherum elatius* with frequent *Dactylis glomerata*; *Agrostis stolonifera*; *Festuca rubra*; *Holcus lanatus* and *Deschampsia caespitosa* and occasional *Bromus ramosus* with herbs including centaury; selfheal; dog violet; *Juncus conglomerata*; betony and locally abundant devil's-bit scabious and gorse. A damp area near the southern edge with dense aspen and oak contains wild angelica; bluebell; *Dryopteris*

felix-mas and figwort.

Visited on 08/07/09 by LCS. Gaps in hedge are fence, to make it stockproof. Oak tree with perching buzzard. Visited on 08/07/09 by LCS. Area of hawthorn scrub with nettle understorey. Visited on 08/07/09 by LCS. Trees along river bank include pollarded willow, elder and alder. Visited on 08/07/09 by LCS. Wet, muddy area, with pollarded willow and some hawthorn scrub.

SP15E

1.) Small semi-natural woodland owned by the Woodland Trust containing frequent willow and self-seeded sycamore; elder and hawthorn. Alder and willow occur along the riverside. There is an area of tall ruderals in the middle of the wood. Along the path are abundant comfrey; ground ivy; alkanet; wood avens and herb robert; with occasional small teasel; white campion and bugle.

Cyclamen also occurs.

2.) River Aine: overhung by willow; alder and elder. Emerging aquatic vegetation includes *Schoenoplectus lacustris*; *Phalaris arundinacea* and *Glyceria* sp.. Flowering rush and monkey-flower are occasional and great willowherb and water figwort are also present.

3.) Area of coarse grasses including *Arrhenatherum elatius*; *Dactylis glomerata*; *Elytrigia repens* and *Poa* spp. including *Poa annua*. Tall ruderals consist mainly of creeping and marsh thistle; with occasional spear thistle. Prickly sow-thistle; meadowsweet; wood and broadleaved dock; hedge bedstraw and patches of teasel also occur.

Visited on 31/07/09 by LCS. Fenced off section of sheep grazed field. Visited on 31/07/09 by LCS. Amenity grassland and pedunculate oak. Visited on 31/07/09 by LCS. With lords-and-ladies. Visited on 31/07/09 by LCS. Sheep grazed. Visited on 31/07/09 by LCS.

Seasonal pond with no vegetation. Visited on 31/07/09 by LCS. Laid hawthorn hedgerow. Visited on 31/07/09 by LCS. Disused railway. Tall ruderals including creeping thistle, bramble, nettle, and ragwort. Undisturbed. Peacock butterfly seen. Visited on 31/07/09 by LCS. Mature sycamore trees around garden area, including planted fruit trees and vegetable garden. Visited on 13/07/09 by LCS. Field horsetail locally abundant. Visited on 13/07/09 by LCS. Tortoiseshell butterfly recorded.

4.) Plantation of willow coppice with ash; sycamore and poplar standards. Common hawthorn; hazel; elder and a mature oak standard also occur. The understorey is dense and there is little ground flora. This consists mainly of ivy and ground ivy; with occasional nettle; bramble; garlic mustard and *Carex pendula*.

Visited on 13/07/09 by LCS. Dried up pond. Visited on 13/07/09 by LCS. Field margin of semi-improved grassland. species include frequent lady's bedstarw, frequent meadow vetchling, field bindweed, hogweed, lesser stitchwort and creeping thistle. Margin likely to continue further north along hedgerow but not surveyed as outside survey area.

5.) Small area of sycamore and oak woodland with small-leaved lime and poplar also present. The understorey is tall; but occasional and contains common hawthorn; hazel and elder. This becomes denser to the east. The ground flora consists of abundant ground ivy; frequent nettle and garlic mustard and occasional *Carex pendula*; burdock and marsh thistle. There is some standing dead wood. In the west is a cleared area with stumps; fallen dead wood and the remains of two fires. There were many small birds present including tits (blue

and marsh or willow); chaffinch and robin. Speckled wood butterflies were present and there was much evidence of rabbit.

6.) Large field cut just prior to survey. *Festuca* sp. is abundant; with *Lolium perenne*; *Dactylis glomerata*; *Holcus lanatus* and *Phleum pratense* also present.

7.) Green lane; which is fairly overgrown with tall ruderals such as burdock; nettle; dock and creeping thistle. Grasses are abundant and include frequent *Dactylis glomerata* and occasional *Lolium perenne*; *Phleum pratense*; *Arrhenatherum elatius* and *Bromus ramosus*. There are a few forbs; including greater plantain; hedge woundwort; clover; silverweed and creeping cinquefoil. Teasel is localised. The lane is edged by hawthorn; blackthorn; elder and dog rose hedges with sycamore and ash standards. Black bryony; hedge bindweed and ivy are occasional. To the west; field maple becomes more common; as do garlic mustard and nipplewort and there are several ancient oaks. Rabbits are common.

8.) Small meadow dominated by grasses such as *Holcus lanatus*; *Dactylis glomerata*; *Phleum pratense* and *Lolium perenne*. Creeping thistle is frequent.

9.) Area of tall ruderals consisting of abundant nettle; with garlic mustard; hogweed; dock and burdock. There is some young ash and field maple and also blackthorn and dogwood.

10.) Area of tall ruderals; dominated by nettles; but with creeping thistle also locally dominant. Bramble; *Arrhenatherum elatius*; marsh thistle and willow and hawthorn scrub are occasional. There are also mature willow; oak and ash. At the edges are areas of linear scrub consisting of hawthorn; crab apple; elder and blackthorn. Three buzzards and a grass snake were present.

11.) Area of green lane that remains very damp - puddles were still present at time of survey despite a long spell of dry weather. Species present include *Carex pendula*; brooklime; fool's watercress; great willowherb and bramble. The hedges here contain crack willow; common hawthorn; field maple; dog rose and ash standards. There is much ivy. Many animal and bird tracks are visible; including muntjac and squirrel.

12.) Large pool containing no aquatic vegetation except a little amphibious bistort. There are steep banks on two sides. The shallower banks contain willow and hawthorn scrub; with no ground flora; while the steeper banks support a sparse vegetative cover; which includes young hawthorn and dog rose; *Juncus inflexus*; bluebell; gypsywort; great willowherb; *Lolium perenne* and *Agrostis stolonifera*. There are several mature oaks here; as well as some fallen dead wood.

13.) Area of grassland; containing *Holcus lanatus*; *Arrhenatherum elatius* and *Agrostis stolonifera*. There is abundant creeping thistle and occasional burdock and nettle. Occurring frequently are red and white clover; bramble; creeping buttercup; meadow vetchling; smooth and hairy tare. There is also some hawthorn and young oaks.

14.) Oak woodland with some ash and sycamore. The understorey comprises elder; hazel and elm. The ground flora contains nettle; bramble; cuckoo pint; *Bromus ramosus* and *Dryopteris filix-mas*. There is much ivy over the ground and covering the trees. To the south; there are less mature oak and ash trees with dense blackthorn scrub. Here; the ground flora contains some bramble; young hawthorn; *Dactylis glomerata* and much ivy. The wood is banked to the east and south and there is a mature; ivy-covered elm tree next to the road.

15.) Fairly mature sycamore plantation with a very sparse understorey of ash

and sycamore regeneration; elder; hawthorn; wild privet and hazel. The ground flora is dominated by ivy; which also covers some of the trees. Bluebells occur frequently; while nettle; herb robert; bramble and *Dryopteris filix-mas* are occasional and cuckoo pint is rare. There is much evidence of rabbits. The hedge next to the road contains elder; field maple; sycamore; holly; blackthorn and elm.

16.) Partly dry ditch; which is 1-2 metres at the deepest point. It contains abundant nettle and also *Holcus lanatus*; spear thistle and frequent hemlock. The banks are generally bare; but at the top support blackthorn; hawthorn; elder; goat and crack willow. There are also mature oaks and crack willows.

17.) Stand of *Glyceria maxima* with willow encroachment and some great willowherb at the edges.

18.) Large pond with occasional duckweed. The edges support *Glyceria* sp.; *Carex pendula* and great willowherb. Present on the banks are teasel; *Arrhenatherum elatius*; *Holcus lanatus*; *Phleum pratense*; nettle; spear and creeping thistle; ox-eye daisy; cleavers and *Carex otrubae*. There are also some young sycamore; ash; hawthorn and elder. Several dragonflies and 6-8 coot were seen.

19.) Uncut meadow; dominated by tall grasses; including *Arrhenatherum elatius*; *Holcus lanatus*; *Dactylis glomerata*; *Agrostis stolonifera* and *Phleum pratense*. Spear thistle and ragwort are occasional; while nettles are localised. There is a single mature oak in the middle of the field.

20.) Pond used by sheep. The water contains much algae and is very green. Some duckweed is also present. The banks are generally bare; but there is some creeping thistle and dock. Poplar and willow overhang the pond in places and there are several large fallen trunks and branches. The woodland at its edge contains oak; ash and poplar; with blackthorn; hawthorn; field maple; crab apple and elm. The ground is generally bare as sheep undergraze the wood.

21.) Green lane; the ground being bare for the most part. Strips of oak woodland edge the lane and contain field maple; crab apple; hazel; hawthorn; blackthorn; elder; wild privet and bramble. There are also some nettle; bluebell; ivy; *Bromus ramosus*; herb robert; nipplewort and ash saplings.

22.) Small area of ash and oak woodland. The canopy is fairly dense and therefore the understorey is sparse; consisting of hawthorn with field maple and dogwood to the north. The ground flora is locally dominated by ivy and garlic mustard. Also present are ground ivy; *Bromus ramosus*; campion; cow parsley; cleavers and herb robert. There is some fallen dead wood and many of the standing trees are covered with ivy.

23.) Wide road verge between road and lay-by. The area is dominated by tall grasses; such as *Arrhenatherum elatius* and *Dactylis glomerata*. Nettle; yarrow; greater knapweed; dock; mugwort; hogweed; *Equisetum arvense* and prickly lettuce are present occasionally. There is a single immature sycamore standard. The area is backed by a hedge of hawthorn; field maple and elder. Purple toadflax is present here.

Visited on 31/07/09 by LCS. Area of poor SI grassland including oxeye daisy, common bird's-foot-trefoil, common knapweed, yarrow, red clover, false oat-grass.

Visited on 31/07/09 by LCS. Lichens and mosses on hard standing, with tall ruderals around edge.

Visited on 31/07/09 by LCS. Wide and bushy hedgerow, including white poplar,

poplar hybrid and willow with lords-and-ladies in hedge bottom.

Visited on 31/07/09 by LCS. Hedge with wet ditch. Species along ditch include reed canary grass, meadowsweet,

bittersweet, broad-leaved dock, and great willowherb. Three large oaks at south end. Visited on 31/07/09 by LCS. Recently created pond. No marginal or aquatic vegetation visible. Visited on 31/07/09 by LCS. Flooded meadow. Visited on 31/07/09 by LCS. Small pond beside hedgerow surrounded by crack willow. Mole holes adjacent in flooded field.

SP05T

- 1.) An area of mature mixed plantation; with pine; spruce; larch; oak and ash with a scattered understorey of hazel and abundant bluebell beneath.
- 2.) New mixed plantation over semi-improved grassland; probably on the site of previous woodland. Grasses include *Dactylis glomerata*; *Arrhenatherum elatius* and occasional *Bromus ramosus* with herbs such as bluebell; wood sage and occasional *Juncus inflexus* and *Dryopteris filix-mas*.
- 3.) Small; shallow and shaded pond with abundant *Glyceria plicata* and frequent *Juncus effusus* with *Carex pendula* along the banks.
- 4.) Mature oak; ash and sycamore plantation with impeded drainage. The canopy is closed with an understorey of hazel; young oak and sycamore. The rich ground flora suggests that this is the site of a pre-existing semi-natural woodland. There is frequent wood anemone; bluebell; bramble; dog mercury and *Carex pendula* with occasional *Dryopteris filix-mas*; *Poa nemoralis*; *Milium effusum*; patches of *Melica uniflora*; enchanters nightshade; wood speedwell; bugle; selfheal and figwort. The rides contain more light loving species such as yellow pimpernel; barren and wild strawberry; primrose; lady's smock; pignut and grasses such as *Dactylis glomerata*; *Holcus lanatus* and occasional patches of *Anthoxanthum odoratum*.
- 5.) Young poplar plantation with birch and occasional cherry. Occasional gorse can be found along the edges along with bramble and *Juncus effusus*.
- 6.) Pine over bracken and bramble. No understorey.
- 7.) Predominantly oak with a patchy understorey of hazel. Bracken dominates the ground flora with bramble and bluebell.
- 8.) Open area with well spaced oak and ash. *Holcus lanatus* and *Poa trivialis* are common with *Carex sylvatica*; *Juncus effusus*; *Anthoxanthum odoratum* and *Bromus mollis*. Silverweed; tormentil; selfheal and occasional agronomy can be found along the ride.
- 9.) Small area of semi-improved grassland between Old Park Wood and Three Oak Hill Wood consisting of *Holcus lanatus*; *Poa trivialis*; *Anthoxanthum odoratum* and *Poa pratensis*; with occasional *Carex* sp.; *Luzula campestris*; *Brachypodium sylvaticum*; agronomy; lady's bedstraw and selfheal.
- 10.) Young; very dense spruce plantation.
- 11.) Marshy grassland with willow scrub contains *Carex riparia*; *Carex otrubae*; *Holcus lanatus*; *Dactylis glomerata* and occasional *Deschampsia cespitosa*; coltsfoot; *Carex pendula*; *Juncus effusus* and red campion.
- 12.) Artificial lake with a small willow covered island. The banks have *Carex riparia* and occasional *Typha latifolia*.
- 13.) Mixed plantation with ash and Scots pine and a scattered understorey of hawthorn and elder. The ground flora contains areas of cow parsley and nettle with dog mercury; *Dactylis glomerata*; *Poa trivialis* and *Bromus sterilis*.
- 14.) Mature oak woodland with scattered hazel coppice and occasional elder;

- field maple and hawthorn beneath. There is abundant *Melica uniflora* with frequent bluebell; garlic mustard; dog mercury and occasional *Milium effusum*.
- 15.) Shallow pond with much *Phragmites australis* surrounded by willow and hawthorn scrub. The grassy verge contains *Dactylis glomerata*; *Holcus lanatus*; meadow vetchling; cow parsley; common vetch and germander speedwell.
- 16.) Mature ash; with sycamore; common lime and occasional horse chestnut and beech. The understorey; which is dense in places consists of hazel and lime and sycamore stools. Bramble and nettle dominate the ground flora with patches of bluebell and *Millium effusum*.
- 17.) Mature sycamore and Scots pine with a scattered understorey of young sycamore and occasional elder. Ground flora is uneven but includes *Dactylis glomerata*; *Holcus lanatus*; cow parsley; bramble; nettle and occasional *Bromus ramosus*; wood avens and red campion.
- 18.) Newly planted poplar on the site of previously felled woodland. Tall herbs and rough grassland can be found beneath; cow parsley; red campion; meadowsweet; occasional spear thistle; wood avens and hedge woundwort. The site is bounded by a stream to the north and an irrigation channel to the south with *Phragmites australis*; brooklime and *Glyceria* sp.. A strip of willow connects the plantation to the A46 with nettle and cow parsley beneath.
- 19.) Large area of sheep pasture subdivided by fences. Improved grassland with abundant *Poa pratensis*; *Poa annua* and frequent to occasional *Alopecurus pratensis*; *Cynosurus cristatus*; *Anthoxanthum odoratum* and *Holcus lanatus*. There are very few forbs; occasional yarrow; common mouse-ear and bulbous buttercup.
- 20.) An area of scattered lime; horse chestnut and sycamore used as shade trees.

Visited on 20/07/09 by LC & TH. Ash, bramble scrub, tall ruderal, hogweed, nettles. Visited on 20/07/09 by LC & TH. Tall ruderal strip. Visited on 20/07/09 by LC & TH. Guelder rose, cherry, hawthorn, rowan, by house. Visited on 20/07/09 by LC & TH. Standard trees with damp ditch, meadowsweet, meadow vetchling. Visited on 20/07/09 by LC & TH. Clear, shallow stream with gravelly bottom and bare earth banks with minimal vegetation, e.g. scented mayweed, willowherb sp, thistle. Linear trees along bank. Visited on 20/07/09 by LC & TH. Trees include mature oak and willow. Visited on 20/07/09 by LC & TH. Defunct hedge with fence and ditch with common reed dominating. Visited on 20/07/09 by LC & TH. Linear trees. Blackthorn, field maple, dead wood. Visited on 20/07/09 by LC & TH. Well vegetated banks with tall grass and herbs. Possible water vole potential. Trees include ash, hazel, hawthorn, blackthorn. Pendulous sedge, figwort, meadowsweet, docks, bramble, spear thistle,

SP05Y

- 1.) Area of willow carr with alder and occasional ash and oak over nettle and cow parsley. The adjacent stream contains *Phragmites australis* *Glyceria plicata* and brooklime.
- 2.) Stream with much filamentous algae lined by nettle and willowherb leading into willow and alder scrub to the east.
- 3.) A46 verge. Semi-improved grassland made up of *Poa* spp. *Festuca rubra* *Dactylis glomerata* *Arrhenatherum elatius* and *Bromus mollis*. The area may have been seeded with wild flower mix with species such as occasional corn cockle

ox-eye daisy and meadow crane's bill as well as common vetch black medick cut-leaved crane's bill ragwort and beaked hawks-beard. A recent plantation separates the verge from the adjacent fields containing blackthorn hawthorn field maple hazel and occasional guelder rose dog rose rowan oak birch and dogwood.

4.) A subdivided semi-improved pasture recently grazed by horses including *Alopecurus pratensis* *Dactylis glomerata* with occasional *Anthoxanthum odoratum* and patches of *Bromus mollis* *Agrostis tenuis* and *Festuca rubra*. Forbs include bulbous buttercup red clover dove's-foot crane's bill and patches of nettle and creeping thistle.

5.) A patch of dense willow and elder scrub with nettle and cow parsley beneath.

Visited on 08/07/09 by LCS. Similar to field described in sp05y46, but with burdock. Visited on 08/07/09 by LCS. More species rich area: meadowsweet, red clover, meadow buttercup, hedge woundwort, and selfheal by the river. Visited on 08/07/09 by LCS. Linear scattered scrub of willow, blackthorn and hawthorn. Visited on 08/07/09 by LCS. Tortoiseshell recorded. Visited on 08/07/09 by LCS. Mature willow and hazel on bank. Visited on 08/07/09 by LCS. Tall ruderals including Himalayan balsam. Visited on 08/07/09 by LCS. Planted trees with improved grassland understorey. Visited on 08/07/09 by LCS. Young planted trees in south. Visited on 08/07/09 by LCS. Poor semi-improved grassland road verge. Visited on 08/07/09 by LCS. An oak and ash tree.

6.) Small area of unmanaged rough grassland with encroaching dog rose and hawthorn scrub. *Arrhenatherum elatius* and *Dactylis glomerata* dominate with *Holcus lanatus* and *Poa trivialis*. Broad-leaved species are limited to creeping buttercup with nettle creeping thistle and cow parsley.

Visited on 08/07/09 by LCS. Amenity grassland verge with planted shrubs, e.g. lilac, cherry, conifers. Visited on 08/07/09 by LCS. Amenity grassland verge. Includes hedge with bramble. Visited on 08/07/09 by LCS. Wild onion in ground flora (rare). Visited on 08/07/09 by LCS. Yellow loosestrife in ground flora (rare). Visited on 08/07/09 by LCS. Frequent tortoiseshell. Visited on 08/07/09 by LCS. Frequent crested dog's-tail. Visited on 08/07/09 by LCS. Large oak, possibly veteran, by fence. Visited on 08/07/09 by LCS. Willow, alder, hawthorn, and other trees along river with large gaps in between. Visited on 08/07/09 by LCS. Frequent damselfiles. Visited on 08/07/09 by LCS. Poor semi-improved grassland with crested dog's-tail, meadow buttercup, oxeye daisy, curled dock and common bird's-foot-trefoil. comma recorded.

7.) Unmanaged grassland with *Arrhenatherum elatius* *Dactylis glomerata* and *Holcus lanatus* and tall ruderal species such as cow parsley nettle and occasional hemlock and hogweed.

Visited on 08/07/09 by LCS. Hawthorn, willow, blackthorn, willow trees along river's edge. Visited on 08/07/09 by LCS. Strip of ruderals including common nettle & burdock. Visited on 08/07/09 by LCS. Scrub and trees along the river bank, including field maple, rosa sp., oak and ash. Visited on 08/07/09 by LCS. Amenity grassland and planted trees. Visited on 08/07/09 by LCS. With mature oak. Visited on 08/07/09 by LCS. Dominated by common nettle. Visited on 08/07/09 by LCS. Churchyard with several ornamental planting flower beds. Trees in churchyard includes several limes and monkey puzzle tree. Visited on 08/07/09 by LCS. Dense line of trees: elm, sycamore, lime, willow & al. Visited on 23/07/09 by LCS. Row of large planted *Cupressus* sp. Visited on 08/07/09 by LCS. Common lime, sycamore, hawthorn

8.) Unmanaged grassland with *Arrhenatherum elatius* *Dactylis glomerata* and *Holcus lanatus* and tall ruderal species such as cow parsley nettle and

occasional hemlock and hogweed.

Visited on 23/07/09 by LCS. No access - dangerous road. Visited on 23/07/09 by LCS.

Road verge which has been seeded with a wild flower mix. Semi-improved grassland with species including abundant oxeye daisy, frequent kidney vetch, bird's-foot-trefoil, red campion, hairy tare, common mallow. Visited on 23/07/09 by LCS. Peacock butterfly recorded.

Visited on 23/07/09 by LCS. Unmown semi-improved grassland path along road.

Visited on 23/07/09 by LCS. No access -- sewage treatment works. Visited on

23/07/09 by LCS. Hawthorn trees with large gaps along wooden fence.

Visited on 23/07/09 by LCS. Trees include willow.

Visited on 23/07/09 by LCS. Mature and semi-mature trees on steep earth river bank, including *Prunus* sp., elder, hazel, ash, field maple, and understorey of frequent ivy.

Visited on 23/07/09 by LCS. Linear scrub with trees. Visited on 23/07/09 by LCS. Defunct hedgerow with common nettle and elder scrub in gaps.

9.) Unmanaged grassland with *Arrhenatherum elatius* *Dactylis glomerata* and *Holcus lanatus* with abundant bulbous and creeping buttercup and patches of nettle and occasional cow parsley hemlock and hogweed. To the north horses have grazed the grass short.

Visited on 23/07/09 by LCS. Wet ditch with *Lemna* sp. present and scrub on banks. Visited

on 23/07/09 by LCS. Strip of semi-improved grassland within improved grassland field, including bird's-foot-trefoil and finer grasses. Visited on 23/07/09 by LCS. River with well

vegetated banks with purple loosestrife, *Typha* and alder. Visited on 23/07/09 by LCS.

Willow, alder trees along river bank & strip of hogweed, common nettle. Visited on

23/07/09 by LCS. Wet meadow with a few scattered willow and hawthorn and tall

ruderal. Visited on 08/07/09 by LCS. Linear trees including elder, hawthorn, bramble and

field maple. Visited on 08/07/09 by LCS. Mature willow & hazel on bank. Visited on

23/07/09 by LCS. Wooden fence & hawthorn scrub. Visited on 08/07/09 by LCS. Mixed

semi-natural woodland of broad-leaved species and planted coniferous species. very

dense and unable to access to survey within woodland. Species include oak, elder,

blackthorn, and hawthorn, and ground flora of abundant ivy, wood false brome and wood

avens at path along eastern edge. Recommended as potential local wildlife site

(pLWS). Visited on 08/07/09 by LCS. Dense line of trees: elm, sycamore, lime, willow. □

10.) An area of nettle with dock cow parsley and horse radish.

Visited on 08/07/09 by LCS. Line of poplars and wooden fence. Visited on 08/07/09 by

LCS. Immature and semi-mature limes. Visited on 08/07/09 by LCS. Common lime,

sycamore and hawthorn. Visited on 23/07/09 by LCS. Semi-improved grassland area

beside roundabout. A few broad-leaved planted saplings such as guelder rose. Ground

flora includes fescue sp., false oat-grass, agrimony, oxeye daisy, wild carrot, hairy tare,

colt's-foot, ragwort, bristly oxtongue and hogweed. Tortoiseshell butterfly recorded. Visited

on 23/07/09 by LCS. Wet drain culverted under road including frequent great willowherb

on south bank and hawthorn and blackthorn scrub on north bank. Visited on 23/07/09 by

LCS. Hawthorn scrub and bramble. Visited on 23/07/09 by LCS. Unmown semi-improved

grass verge. Visited on 23/07/09 by LCS. Broad-leaved plantation inc. *Prunus* sp., field

maple and hawthorn. Visited on 23/07/09 by LCS. Planted lime trees along fence. Visited

on 23/07/09 by LCS. Semi-improved grassland road verge with trees.

11.) Abandoned orchard over tall ruderal with elder and hawthorn scrub.

Visited on 23/07/09 by LCS. Semi-improved grassland road verge with trees. Visited on

23/07/09 by LCS. With *Pinus* sp. Visited on 23/07/09 by LCS. Hedge with trees providing

shade in this section of the brook, such as coppiced hazel, oak trees, and dense scrub.

Brook clear and slow moving. Visited on 23/07/09 by LCS. Hedgerow with laid hawthorn

and lords-and-ladies. Visited on 23/07/09 by LCS. With improved grassland road

verge. Visited on 23/07/09 by LCS. With improved grassland road verge. Visited on 23/07/09 by LCS. Hedge with frequent willow. Visited on 23/07/09 by LCS. Lords-and-ladies and speckled wood. Visited on 23/07/09 by LCS. Undisturbed and unmanaged area of tall ruderals, including hogweed, common nettle co-dominant. Visited on 23/07/09 by LCS. A group of broad-leaved trees at the back of houses. A variety of species, including mature ash and weeping willow.

12.) A mosaic of cow parsley *Alopecurus pratensis* *Bromus mollis* *Arrhenatherum elatius* and *Holcus lanatus*.

Visited on 23/07/09 by LCS. Lords-and-ladies. Visited on 23/07/09 by LCS. Buzzard observed overhead. Visited on 23/07/09 by LCS. Churchyard with many planted trees, a mix of coniferous and broad-leaved. Visited on 23/07/09 by LCS. Wet brook with grassy banks and scattered hawthorn. Visited on 23/07/09 by LCS. Fence with tall ruderal strip, including purple toadflax and common goldenrod. Visited on 23/07/09 by LCS. Mainly amenity grassland. Area at south is less managed with tall grasses and scattered trees including rowan, black bryony and bramble scrub. Visited on 23/07/09 by LCS. Low scrubby hedge. Visited on 23/07/09 by LCS. Comma recorded.

13.) Unmanaged grassland with *Alopecurus pratensis* *Dactylis glomerata* *Arrhenatherum elatius* *Bromus mollis* *Agrostis stolonifera* and *Poa* spp.

Visited on 23/07/09 & 31/07/09 by LCS. No access and undisturbed due to density of brambles. Suggested as pLWS for bird interest. Breeding turtle doves (2008), cuckoo, bullfinch, song thrush, plus other species. Dense scrub and tall ruderals: Bramble (D), nettle (D), hedge bindweed (A), elder, hawthorn, pear, elm, willow, ivy, bittersweet, lords-and-ladies. Hedge along road is tall, dense and bushy.

14.) Unmanaged grassland with scattered birch copper beech and ash.

Alopecurus pratensis *Bromus mollis* and *Poa* spp. are interspersed with patches of cow parsley and nettle.

15.) Unmanaged grassland dominated by *Arrhenatherum elatius* *Dactylis glomerata* *Alopecurus pratensis* and *Poa trivialis* with patches of nettle cow parsley and hogweed.

16.) New broad-leaved plantation on a north facing hillside including birch poplar oak hazel field maple and guelder rose.

17.) Mature broad-leaved plantation with ash and beech with a hawthorn and elder understorey with nettle and cow parsley beneath.

18.) Poor -improved pasture on a steep north facing slope. The area at the bottom has been improved. Black medic creeping cinquefoil dove's-foot crane's bill and occasional bird's foot trefoil can be found on the steepest part of the slope.

19.) Roundabout which has been seeded with a wild flower mix includes abundant ox-eye daisy with wild carrot cornflower and occasional kidney vetch bird's-foot trefoil agrimony hop trefoil bristly ox-tongue and yellow rattle. Grasses are sparse and include *Poa* spp. *Cynosurus cristatus* *Lolium perenne* and *Festuca rubra*.

Visited on 23/07/09 by LCS. Target note remains.

Visited on 23/07/09 by LCS. Stream stagnant at this point.

20.) Semi-improved flood meadow with frequent *Poa pratensis* *Dactylis glomerata* and *Alopecurus pratensis* with occasional *Arrhenatherum elatius*. There is abundant creeping and meadow buttercup with frequent mouse-ear red clover hairy tare black medick and patches of red and white campion cow parsley and hemlock.

21.) Semi-improved flood meadow grazed extremely short by horse and rabbit with patches of nettle *Juncus inflexus* and marsh thistle.

Visited on 23/07/09 by LCS. Area of tall ruderals, species including common nettle, great willowherb, and hard rush.

22.) Old flood meadow which has probably been used for arable now with patches of bare earth hemlock willowherb dock with occasional *Phalaris arundinacea* and areas with short ephemerals.

23.) Semi-improved flood meadow with frequent *Poa pratensis* *Dactylis glomerata* and *Alopecurus pratensis* with occasional *Arrhenatherum elatius*. There is abundant creeping and meadow buttercup with frequent mouse-ear red clover hairy tare black medick and patches of red and white campion cow parsley and hemlock.

24.) Cattle grazed flood meadow with frequent *Alopecurus pratensis* *Poa pratensis* *Bromus mollis* and occasional *Anthoxanthum odoratum* and *Cynosurus cristatus*. Forbs are limited to creeping and meadow buttercup black medick and red clover.

Visited on 23/07/09 by LCS. Grassland with frequent ragwort with creeping thistle and white clover. Horse grazed with geese and a pond.

25.) Cattle grazed flood meadow with frequent *Alopecurus pratensis* *Poa pratensis* *Bromus mollis* and occasional *Anthoxanthum odoratum* and *Cynosurus cristatus*. Forbs are limited to creeping and meadow buttercup black medick and red clover.

26.) Poorly improved hay meadow with frequent *Bromus mollis* with scattered cow parsley hogweed red clover and occasional nettle beaked hawks-beard spear thistle and black medick.

Visited on 23/07/10 by LCS. Frequent meadow buttercup.

27.) Disused railway line lined by hawthorn and elder scrub with bramble dog rose and tall ruderals encroaching to the central path in parts. In relatively open stretches *Dactylis glomerata* *Arrhenatherum elatius* *Festuca rubra* and *Poa trivialis* can be found with hedgerow crane's bill lady's bedstraw field horse tail bush and common vetch hedge bedstraw and ground ivy.

28.) River Arrow. This stretch of the river has a small artificial weir and is lined by scattered willow with tall herbs beneath and *Phragmites australis* *Glyceria maxima* to the west and occasional yellow water-lily and *Scheuchzeria palustris*.

29.) A mosaic of tall ruderal and rough grassland with *Dactylis glomerata* *Alopecurus pratensis* *Holcus lanatus* and occasional *Arrhenatherum elatius*.

30.) Unmanaged old flood meadow with abundant *Dactylis glomerata* *Arrhenatherum elatius* and frequent *Poa pratensis* and *Holcus lanatus*. Forbs include frequent red clover black medick germander speedwell cut-leaved and dove's-foot crane's bill creeping cinquefoil and occasional bush and common vetch and spotted medick.

31.) Unmanaged old flood meadow with abundant *Dactylis glomerata* *Arrhenatherum elatius* *Alopecurus pratensis* and frequent *Poa pratensis* and *Holcus lanatus*. Forbs include frequent red clover black medick germander speedwell cut-leaved and dove's-foot crane's bill creeping cinquefoil and occasional bush and common vetch and spotted medick.

32.) An area of coarse grassland and tall herb on an area of land between channels of River Arrow containing *Poa trivialis* *Dactylis glomerata* *Arrhenatherum elatius* and occasional *Cynosurus cristatus* *Alopecurus pratensis* and *Bromus mollis* with hemlock nettle and teasel. Young willow alder field maple and guelder rose have been planted between the path and the main river bank which has patches of *Phalaris arundinacea* gipsywort and great yellow-cress.

Visited on 23/07/09 by LCS. Improved grassland beside river, with scattered semi-mature trees for example ash and dogwood scrub. Common nettle and willowherb sp. along river banks. Mole hills present.

33.) An area of old flood meadow now overgrown by cow parsley hogweed hemlock and nettle.

Visited on 23/07/09 by LCS. Viewd from a distance. Appears to be horse grazed improved grassland.

34.) Young broad-leaved plantation of oak alder dog rose hawthorn ash and guelder rose and field maple.

35.) Unmanaged grassland on uneven south facing slope with *Arrhenatherum elatius* *Dactylis glomerata* *Bromus mollis* *Poa* spp. and scattered cow parsley.

36.) Verge. Grasses include frequent *Alopecurus pratensis* *Poa trivialis* *Dactylis glomerata* and occasional *Holcus lanatus* and *Festuca rubra*. There has probably been seeding with wild flower mix with frequent ox-eye daisy black medick black knapweed kidney vetch and occasional bird's-foot trefoil common vetch wild carrot perforate St. John's wort lady's bedstraw and salad burnet.

37.) Roundabout with frequent *Alopecurus pratensis* *Poa trivialis* *Festuca rubra* and occasional *Arrhenatherum elatius*. The area has been seeded with salad burnt kidney vetch ox-eye daisy kidney vetch black knapweed black medick and lady's bedstraw.

38.) Poor semi-improved cattle grazed old flood meadow with *Alopecurus pratensis* *Poa pratensis* and *Holcus lanatus*.

39.) Rough unmanaged grassland dominated by *Arrhenatherum elatius* *Dactylis glomerata* and cow parsley. Planning consent has been given to build on the area.

40.) River Arrow. The river meanders a great deal at this point with good glide-riffle sequences with shingle side bars. *Scheonoplectus lacustris* *Glyceria maxima* and yellow flag are scattered along the banks with areas of dense nettle.

41.) Arrow Mill. An area of amenity grassland with mill ponds. To the north of the hotel the pond is deep to the south becoming shallower as it joins the river with occasional ash and willow. Emergent vegetation includes *Carex riparia* *Phalaris arundinacea* *Glyceria maxima* and occasional gipsywort. There is an extensive patch of *Phragmites australis* to the north.

42.) Mill pond to the south of the hotel. Contains yellow water-lily with *Glyceria maxima* and patches of *Scheonoplectus lacustris* *Typha latifolia* and *Carex riparia*.

43.) Oversley Wood. Largely mature plantation with stands of conifer and broad-leaved species including Scot's Pine Western red cedar oak larch silver birch and sycamore with some area of small-leaved lime and hazel. Ground flora is varied with areas of bracken wood sage bluebell *Dryopteris filix-mas* *Luzula sylvatica* and

Visited on 08/07/09 by LCS. With scattered trees: ash, *Pinus* sp, Scots Pine, *Cupressus* sp. In the hedge to S are spp including elder, hawthorn, bramble and field maple. Visited

on 08/07/09 by LCS. Common nettle dominant. Visited on 08/07/09 by LCS. Hay meadow with grasses including Yorkshire fog (D), bent sp., perennial rye-grass, and herbs

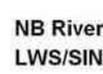
including common nettle, common thistle, smooth tare, broadleave dock (F), soft rush, teasel and cow parsley, Mammal lay ups, and good for invertebrates such as ladybird,

painted lady , ringlet and meadow brown. Visited on 08/07/09 by LCS. Wet ditch with common nettle and great willowherb on banksides. Occasional trees, including oak,

willow, ash and elder. Visited on 08/07/09 by LCS. River Arrow with very frequent Himalayan balsam along banks. Visited on 08/07/09 by LCS. Linear trees including ash and oak with bramble in the gaps.

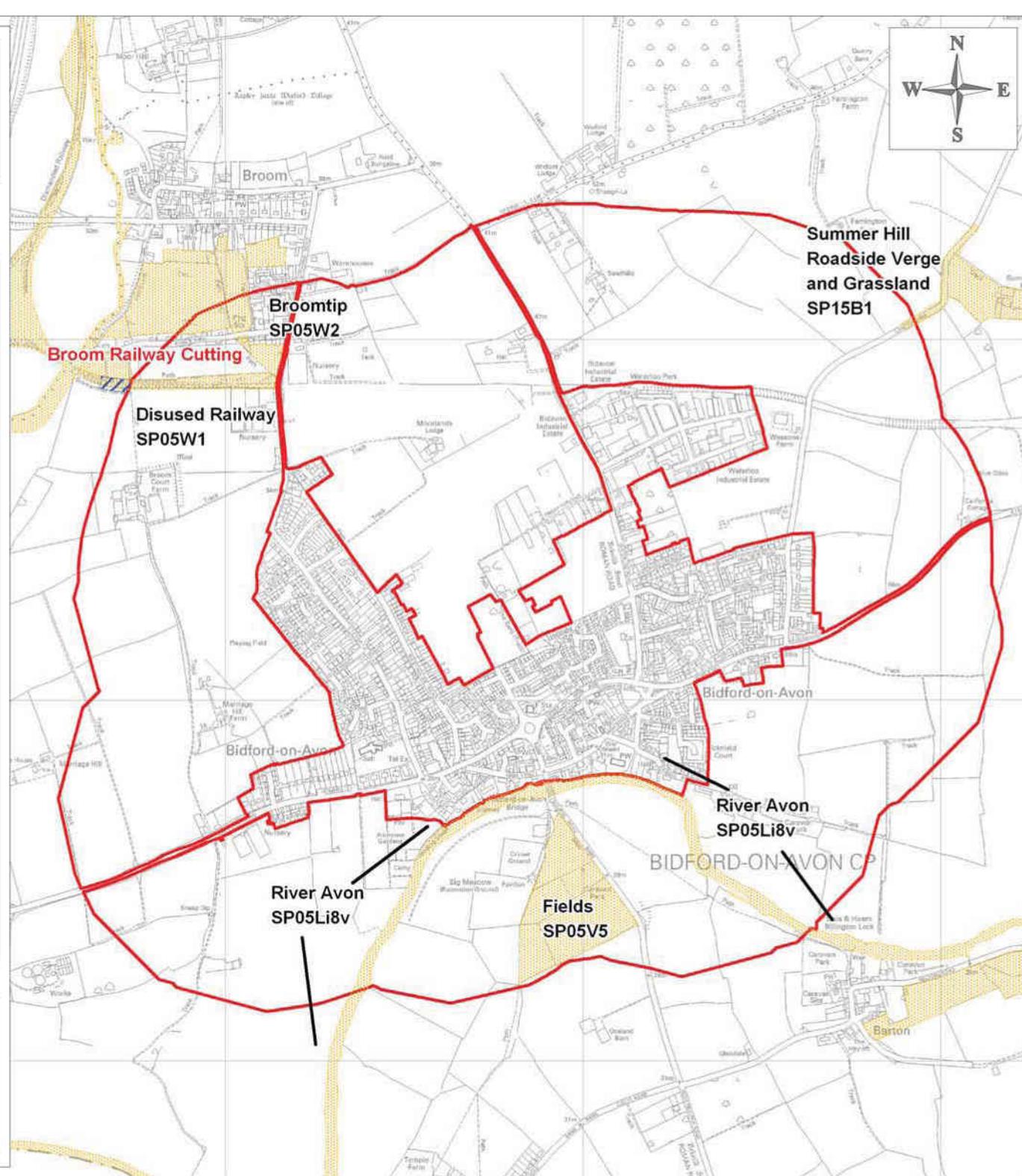


Bidford-on-Avon Local Sites

-  Potential Local Wildlife Site (pLWS/SINC)
-  Local Wildlife Site (LWS/SINC)
-  Rejected potential Local Wildlife Site
-  Destroyed Local Wildlife Site
-  SSSI
-  RIGS
-  LNR

NB River Avon has now been designated as Linear LWS/SINC and is awaiting digitisation in mid to late 2010.

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Bidford on Avon - HBA

Phase I Habitat Survey

Habitat Types

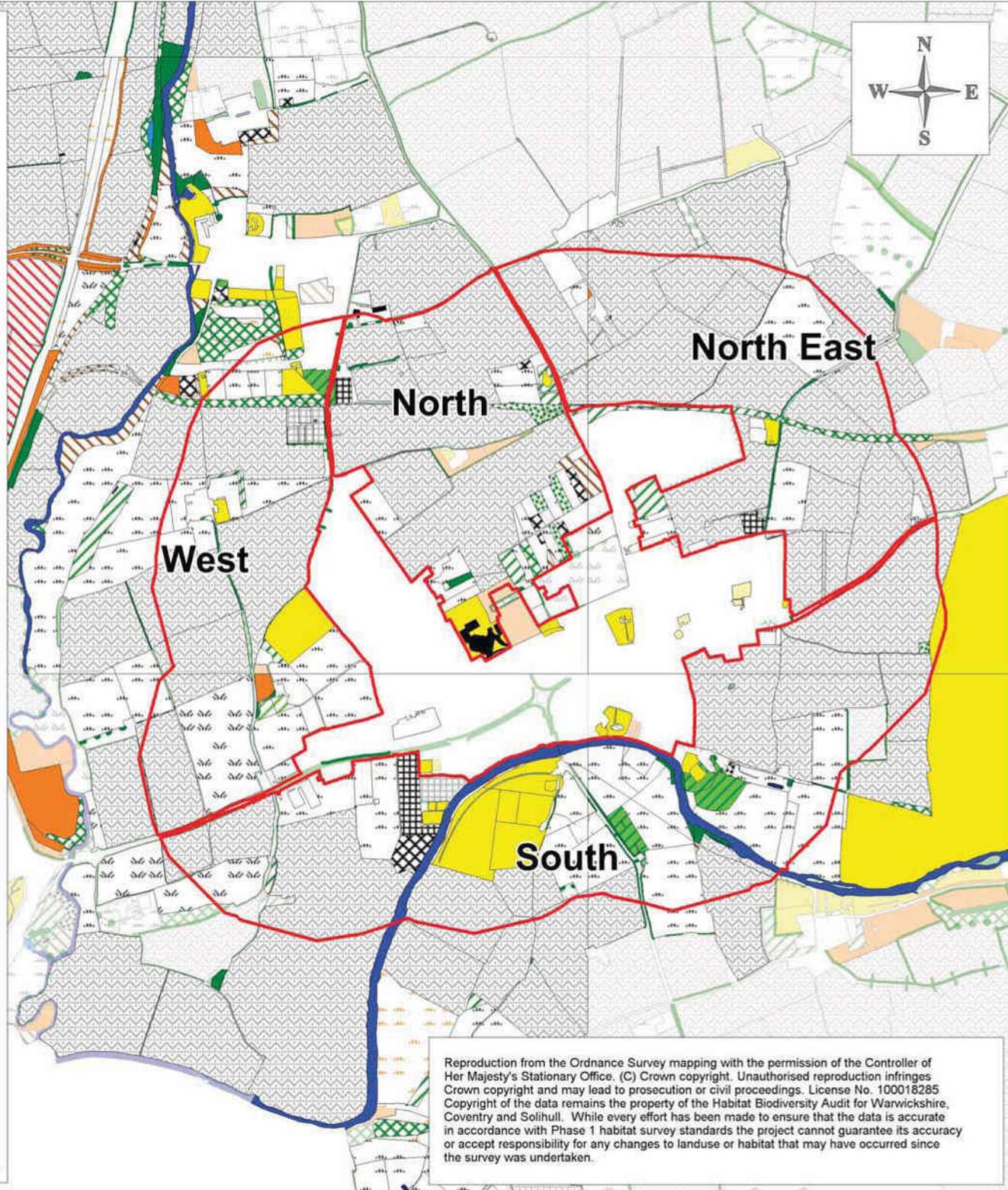
	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase I Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		

NB Data with a survey date before 2005 is displayed with muted tones



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Bidford-on-Avon North East

Area: 88.0 hectares



Phase I Habitat Survey

Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
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	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
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	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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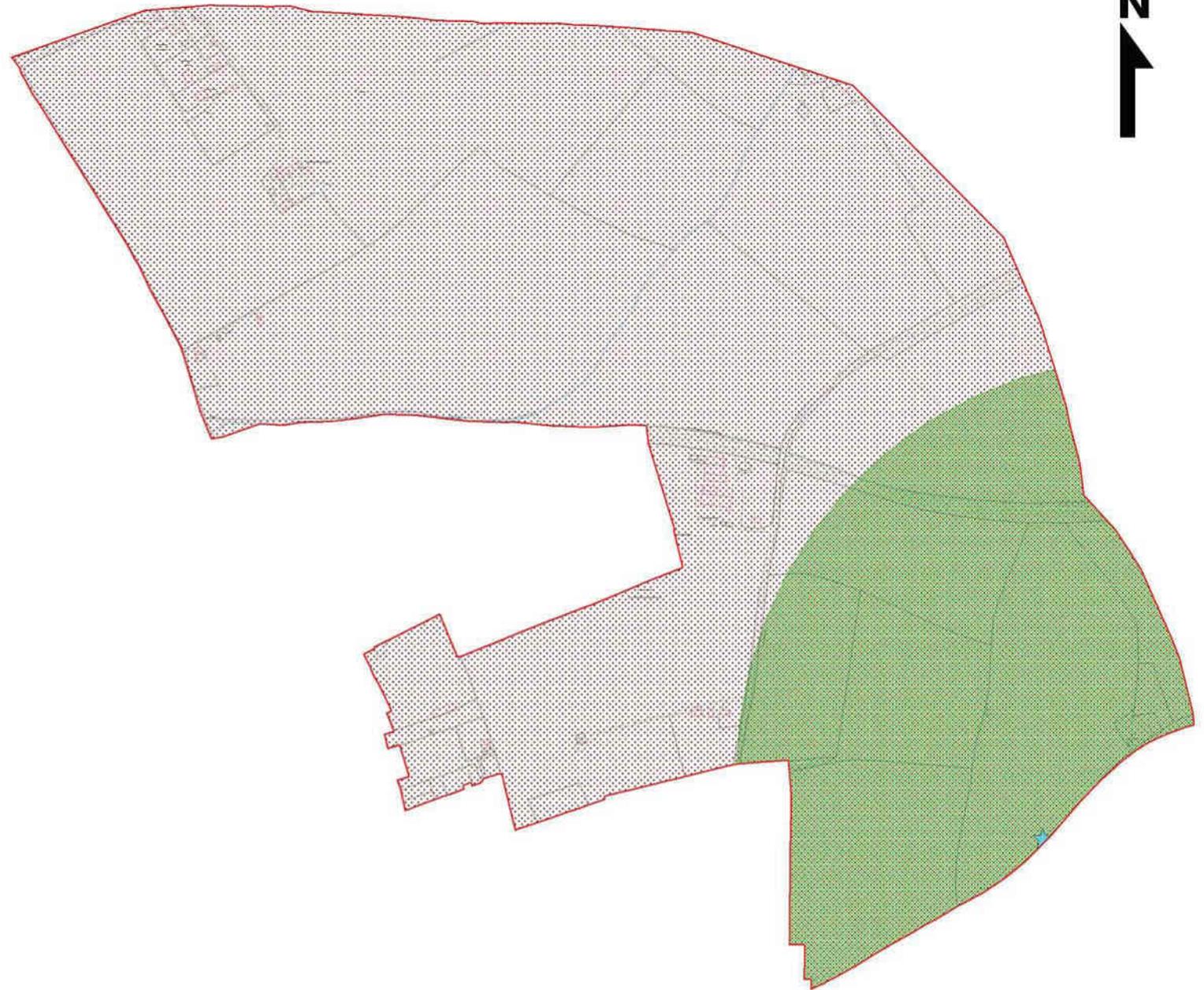


Bidford North-East

Species

-  Buffer zone for otter, water vole or white-clawed crayfish
-  Buffer zone for great crested newt, adder, grass snake or slow worm
-  Buffer zone for bat

-  Brown Hare
-  Reptile/amphibian
-  Barn Owl
-  BAP Butterfly
-  Black poplar
-  Veteran tree
-  County rare plant



Warwickshire Biological Records Centre
Museum Field Services
The Butts
Warwick
CV34 4SS
Tel: (01926) 418060
Fax: (01926) 412975

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Bidford-on-Avon South

Area: 136.3 hectares



Phase I Habitat Survey

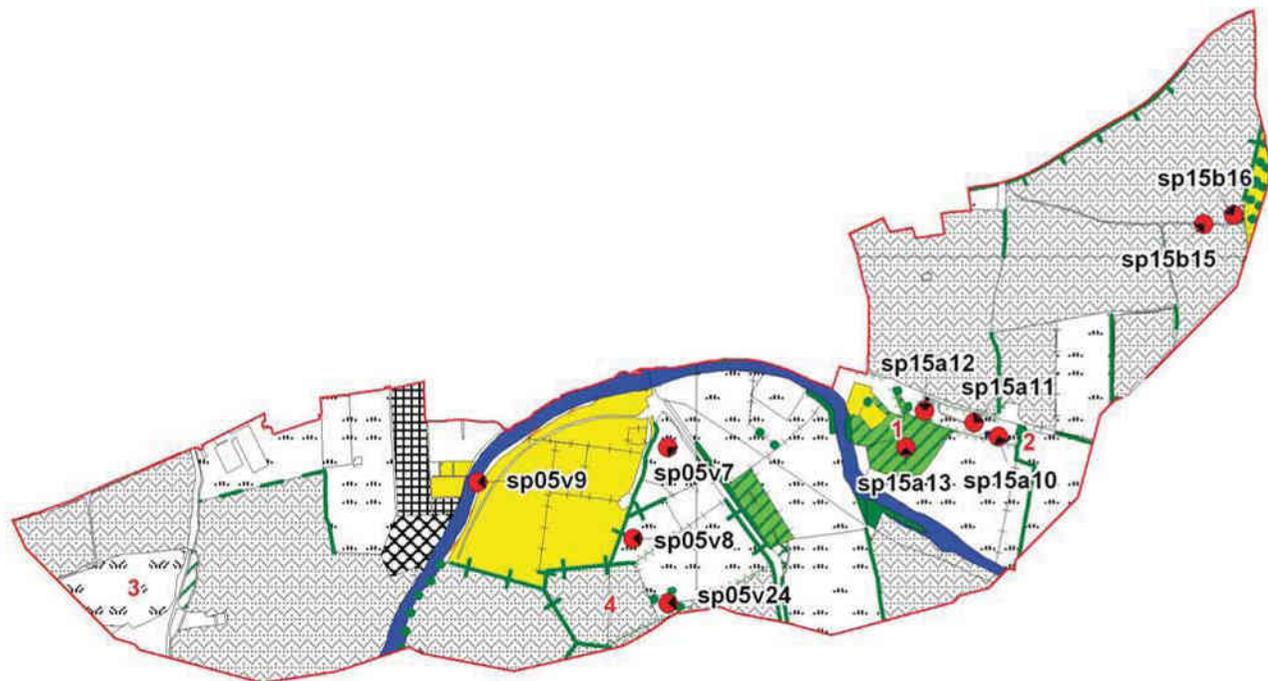
Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
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	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
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	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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Bidford South

Species

 Buffer zone for otter, water vole
or white-clawed crayfish

 Buffer zone for great crested newt,
adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

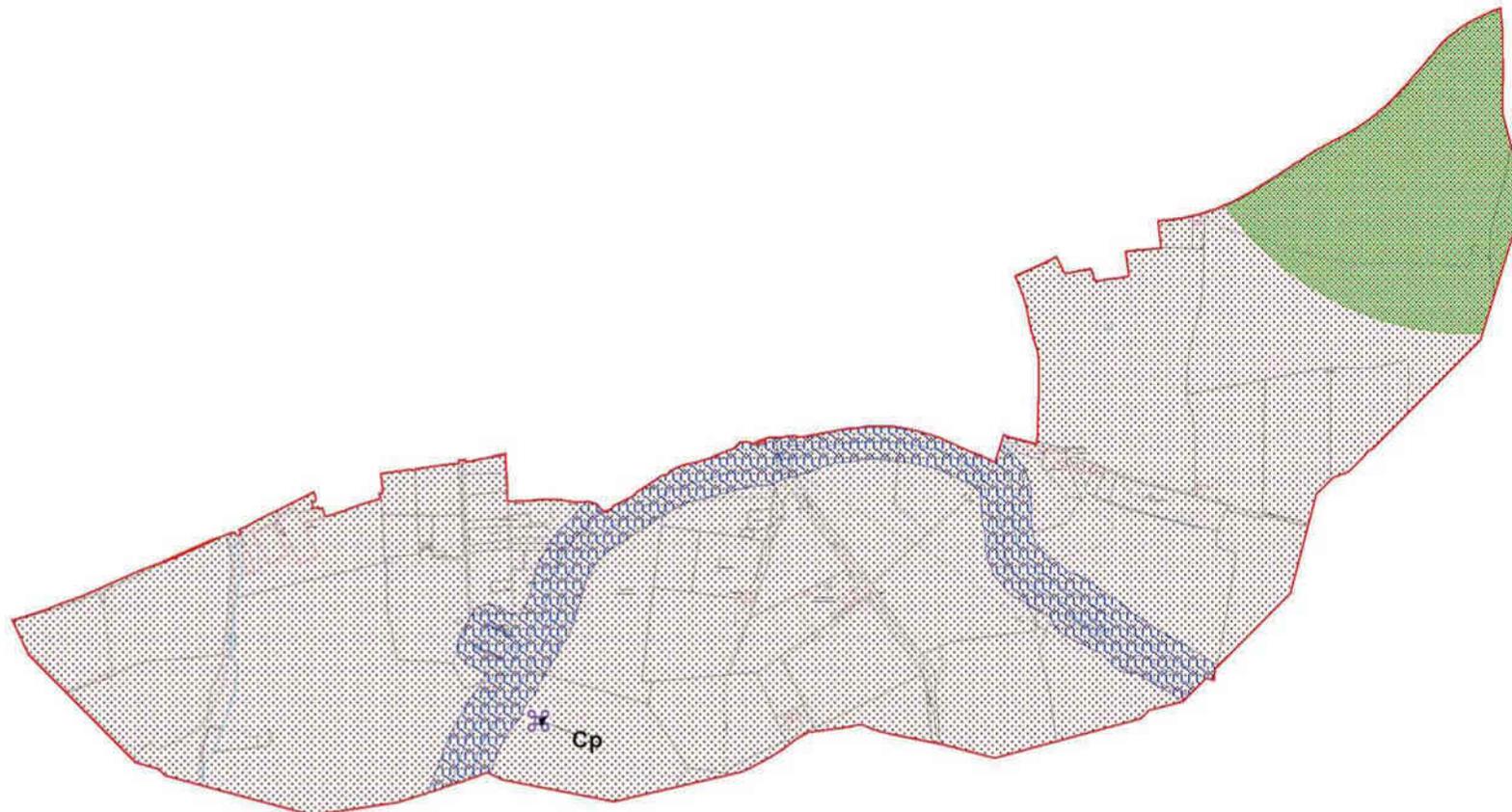
 Barn Owl

 BAP Butterfly

 Black poplar

 Veteran tree

 County rare plant



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Bidford-on-Avon North

Area: 62.9 hectares

Phase I Habitat Survey

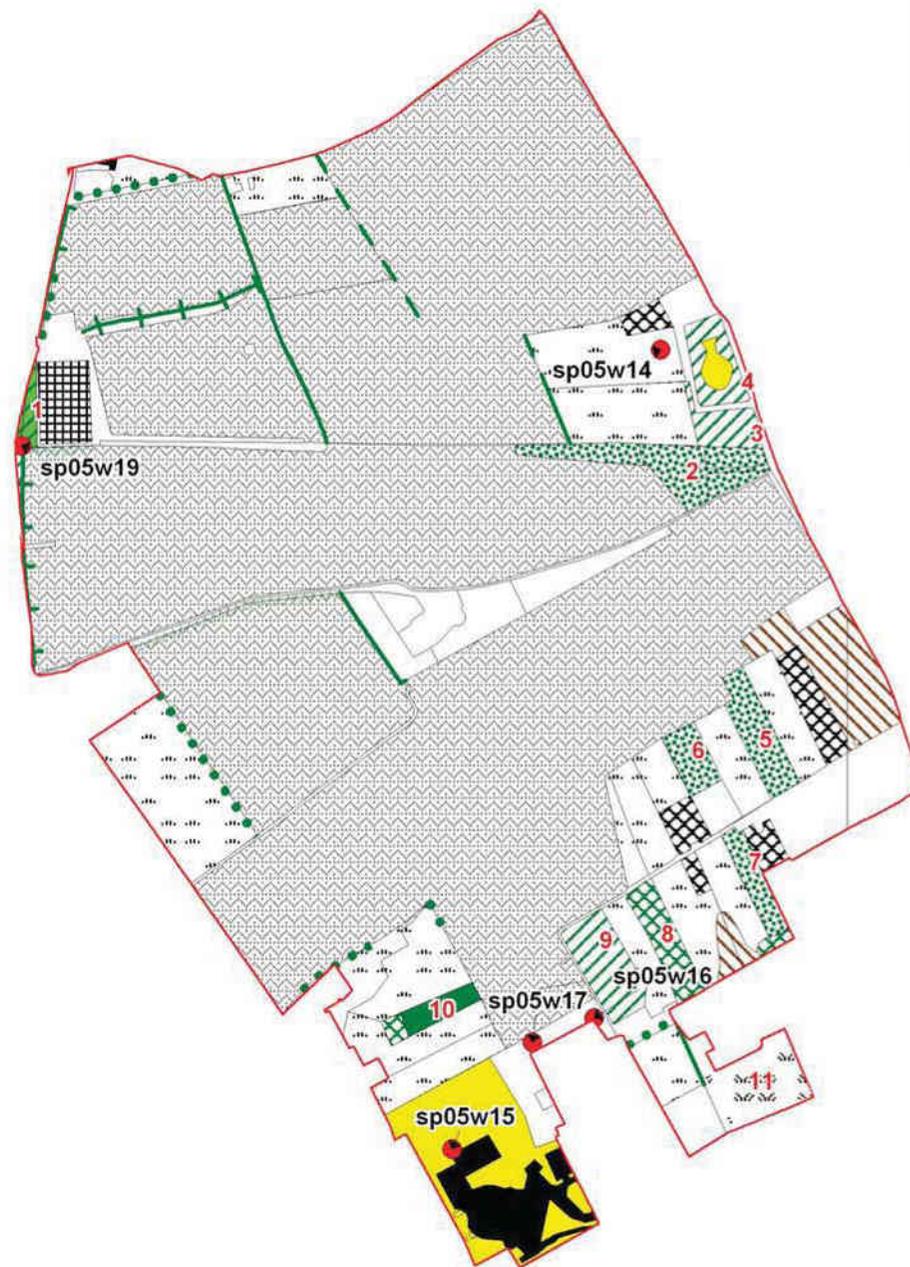
Habitat Types

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	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
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	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
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	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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Bidford North

Species



Buffer zone for otter, water vole
or white-clawed crayfish



Buffer zone for great crested newt,
adder, grass snake or slow worm



Buffer zone for bat



Brown Hare



Reptile/amphibian



Barn Owl



BAP Butterfly



Black poplar

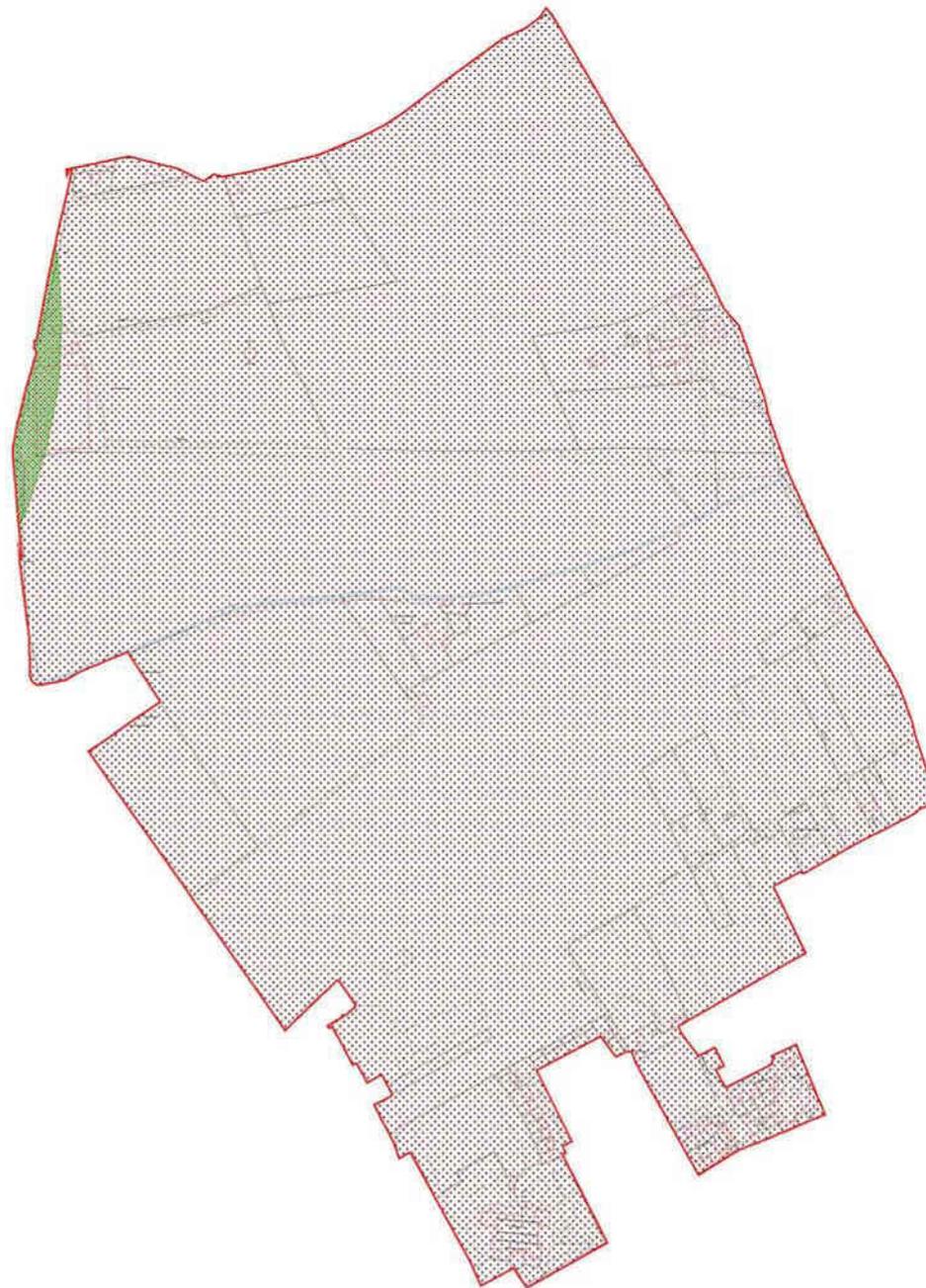


Veteran tree



County rare plant

Warwickshire Biological Records Centre
Museum Field Services
The Butts
Warwick
CV34 4SS
Tel: (01926) 418060
Fax: (01926) 412975





Bidford-on-Avon West

Area: 79.4 hectares

Phase I Habitat Survey

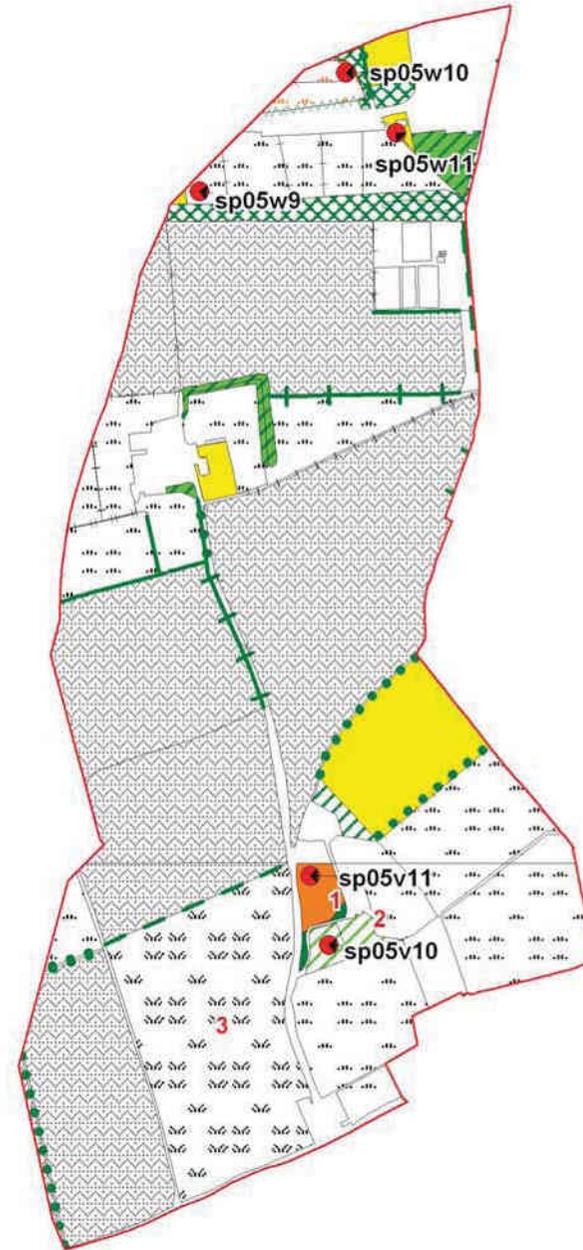
Habitat Types

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	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
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	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



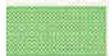
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Bidford West

Species

 Buffer zone for otter, water vole
or white-clawed crayfish

 Buffer zone for great crested newt,
adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

 Barn Owl

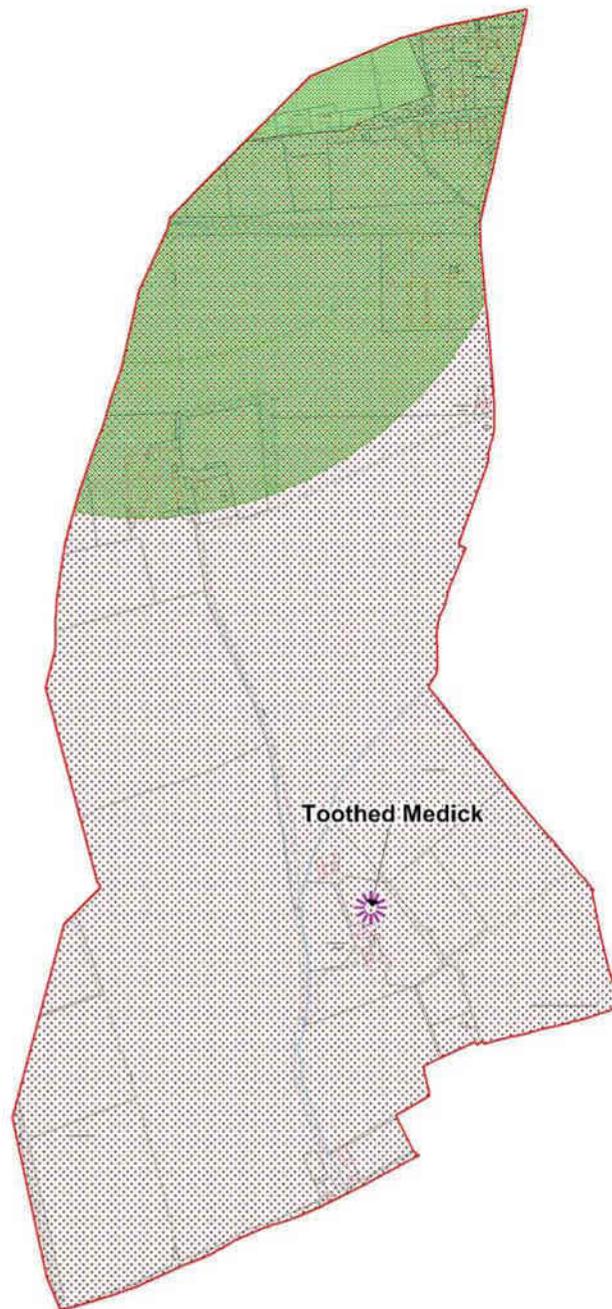
 BAP Butterfly

 Black poplar

 Veteran tree

 County rare plant

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Key for Reptile/Amphibian species

Tv	<i>Triturus vulgaris</i> (AKA <i>Lissotriton vulgaris</i>)	Smooth Newt
Rt	<i>Rana temporaria</i>	Common Frog
Bb	<i>Bufo bufo</i>	Common Toad
Lv	<i>Lacerta vivipara</i> (AKA <i>Zootoca vivipara</i>)	Common Lizard

Key for Red Listed and UK BAP Butterfly species

Please note that Small Blue and Dingy Skipper are also LBAP species

Cm	<i>Cupido minimus</i>	Small Blue
Cp	<i>Coenonympha pamphilus</i>	Small Heath
Et	<i>Erynnis tages</i>	Dingy Skipper
Lc	<i>Limenitis camilla</i>	White Admiral
Lm	<i>Lasiommata megera</i>	Wall
Pm	<i>Pyrgus malvae</i>	Grizzled Skipper
Swa	<i>Satyrium w-album</i>	White-letter Hairstreak

Appendix of Target Notes relating to Phase 1 Habitat Survey Maps

(in alpha-numeric order)

Bidford-on-Avon Target notes

SP05v

1.) Semi-improved pasture on the top of a north facing slope contains frequent *Alopecurus pratensis* *Dactylis glomerata* *Anthoxanthum odoratum* and occasional *Festuca rubra*. The field is richest in the western corner where cowslip meadow vetchling thyme-leaved and germander speedwell and *Luzula campestris* are common.

2.) An area of mostly hawthorn scrub with occasional ash on a north facing slope. Bluebell cow parsley and garlic mustard are widespread with cowslip hedge woundwort red campion and *Bromus ramosus* being less common.

3.) Semi-improved pasture at the bottom of a north facing slope contains frequent *Alopecurus pratensis* *Dactylis glomerata* *Anthoxanthum odoratum* and occasional *Festuca rubra*. The field is richest in the western corner where cowslip meadow vetchling thyme-leaved and germander speedwell and *Luzula campestris* are common.

4.) New mixed plantation over rough *Arrhenatherum elatius* and tall ruderal.

5.) New mixed plantation over rough *Arrhenatherum elatius* and tall ruderal.

6.) Semi-improved meadows with abundant bulbous and meadow buttercup common vetch hairy tare cow parsley and dandelion. meadow vetchling and cut-leaved

cranes-bill are present but less frequent. Grasses include *Bromus mollis* *B. arvensis* and occasional *Poa pratensis* and *Dactylis glomerata*.

7.) Poor semi-improved meadow with *Alopecurus pratensis* *Poa* spp. *Cynosurus cristatus* and occasional *Dactylis glomerata*. There is much cow parsley especially along the edges as well as bulbous buttercup lady's smock meadow vetchling and patches of hawthorn scrub. The southern corner contains tall ruderals such as nettle butterbur cow parsley and broad-leaved dock.

8.) Poor semi-improved meadow with *Alopecurus pratensis* *Poa* spp. *Cynosurus cristatus* and occasional *Dactylis glomerata*. There is cow parsley especially along the edges as well as bulbous buttercup lady's smock meadow vetchling and patches of hawthorn scrub. Four buzzards were seen displaying overhead and a yellow wagtail spotted on fence post. Visited on 13/07/09 by MF. Field is now lush green with frequent curled dock.

9.) River Avon. Deep and slow moving at this point with yellow water-lily *Schoenoplectus lacustris* *Glyceria maxima* and *Phalaris arundinacea*. The bankside is steep and covered with nettle and cow parsley with occasional hedge bedstraw and tansy. Reed warblers and reed bunting seen during survey.

10.) Orchard over rough *Arrhenatherum elatius* grassland.

11.) Poor semi-improved grassland with *Arrhenatherum elatius* and *Dactylis glomerata*.

12.) River Arrow. An area of willow carr with ash over nettle burdock willowherb and teasel. the river meanders at this point with some extensive side bars. Fresh mink spraint found during survey.

13.) New broad-leaved plantation on road verge over rough grassland and short ephemerals. Mostly hawthorn oak and cherry planted.

- 14.) River Arrow south of bridge. Glide and riffle combination with a large meander and associated shingle sidebar. Reinforced with rip-rap near the bridge.
- 15.) New plantation of willow and poplar over short ephemerals.
- 16.) Swamp around stream running into the Arrow with *Typha latifolia* and *Glyceria maxima*. Reed and sedge warbler seen.
- 17.) Poor semi-improved grassland with nettles and dock.
- 18.) Coarse grasses such as *Arrhenatherum elatius* and *Dactylis glomerata* and occasional *Festuca rubra*. Herbs include creeping cinquefoil ribwort plantain dock nettle and extensive patches of spotted medick.
- 19.) Verge with *Poa* spp. *Arrhenatherum elatius* *Dactylis glomerata* and occasional *Festuca rubra*. Herbs include abundant ribwort plantain cut-leaved cranes-bill and common vetch with frequent ox-eye daisy doves-foot cranes-bill hairy tare and occasional pignut mallow and meadow cranes-bill. There is much seeded clover at the top of the slope.
- 20.) Hay meadow with *Alopecurus pratensis* *Poa pratensis* and occasional *Dactylis glomerata*. There is frequent sorrel pignut and bulbous buttercup.
- 21.) Verge on very stony substrate with frequent yellow rattle ox-eye daisy small flowered buttercup corn salad tansy and occasional common whitlow grass and changing forget-me-not.
- 24.) Visited on 08/06/06 by RM/CH. Ungrazed, cut in strips separated by tape and seen as a possible extension of development area. Weekly car boot sales (Thursday). Visited on 13/07/09 by MF. Now inaccessible, with evidence of farmsheds/buildings.

SP05w

- 1.) Mature crack willow with occasional alder and nettles beneath.
- 2.) Disused railway line becoming wooded with ash; alder and oak and an under storey of field maple; hazel; hawthorn and elder creating shaded conditions beneath. The ground flora either side of the bare earth path consists of frequent wood avens; dock; herb Robert; hogweed and occasional wood anemone; wild angelica; *Dryopteris filix-mas*; *Dactylis glomerata*; cleavers and dog mercury. There are large bare areas that seem to be regularly used by off road motor bikes. To the south hawthorn and elder scrub dominate with nettle; dock and large patches of *Phragmites australis*; red campion; rosebay willowherb and hogweed.
- 3.) An area of tall ruderal on rubble with frequent hemlock; bramble; prickly sow-thistle; mugwort; *Arrhenatherum elatius*; *Dactylis glomerata*; *Bromus sterilis* and occasional mallow; cut-leaved crane's-bill; poppy; bristly ox-tongue and white campion.
- 4.) An area of disused ground with overgrown by elder; willow and hawthorn scrub over coarse grasses such as *Arrhenatherum elatius* and *Dactylis glomerata* with patches of nettle; marsh thistle; hemlock; *Phragmites australis*; bramble and dog rose. An area to the south lies over hard-core and rubble and has a more interesting flora of short grasses such as *Festuca rubra*; *Vulpia myuros*; *Poa annua* and stunted *Bromus mollis*. Forbs include frequent ribwort plantain; dove's-foot crane's-bill; black medick and occasional hop and bird's-foot trefoils. The area makes a good habitat for birds with whitethroat; willow warbler; chiff-chaff; bullfinch and turtle dove all observed during the survey. Visited on 13/07/2009 by MF target note update - area now poor semi-improved grassland with area of dense continuous scrub. Species list also includes self-heal, creeping buttercup, common mouse-ear, germander speedwell, perforate St. John's-wort, hawkbit, teasel, soft rush, creeping thistle,

Oxford ragwort, black medick, white clover, lady's bedstraw, spear thistle and creeping cinquefoil.

5.) Poor semi-improved grassland with *Alopecurus pratensis*; *Dactylis glomerata*; *Poa* spp. and occasional *Anthoxanthum odoratum* and *Holcus lanatus*. There were few forbs.

6.) Alder and willow scrub with occasional field maple; elder and mature ash.

7.) Hay meadow with frequent *Alopecurus pratensis*; *Arrhenatherum elatius*; *Poa trivialis*; *Dactylis glomerata*; *Poa pratensis* and occasional *Anthoxanthum odoratum* and *Festuca rubra*. Forbs include frequent lady's bedstraw; sorrel and occasional bird's-foot trefoil; bulbous buttercup and black knapweed.

8.) Rough grassland with *Arrhenatherum elatius* and *Dactylis glomerata* and occasional *Agrostis tenuis* with a few patches of bramble and nettle and occasional lesser stitchwort.

9.) Disused railway with dense elder; elm and hawthorn scrub with some oak and ash over bramble and nettle.

10.) A small area of hawthorn and blackthorn scrub with occasional young oak and ash over bramble; dog rose; cow parsley; *Bromus mollis*; *Arrhenatherum elatius*; *Poa trivialis* and *Bromus sterilis*. Forbs are limited to cut-leaved crane's-bill; common vetch and germander speedwell.

11.) Abandoned grassland largely taken over by hawthorn; blackthorn and elder scrub over bramble; broom; dog rose; *Arrhenatherum elatius*; *Dactylis glomerata*; cow parsley; common vetch and red campion. There is some evidence of management with some areas of grass having been mown. Bee orchid is reported at the site.

12.) Dense blackthorn; hawthorn and elder scrub with some old apple trees over bramble; nettle; cow parsley; rosebay willowherb; *Arrhenatherum elatius* and *Dactylis glomerata*.

13.) Hay meadow with frequent *Arrhenatherum elatius*; *Dactylis glomerata*; *Bromus mollis*; *Holcus lanatus*; *Poa* spp.; *Alopecurus pratensis* and occasional *Festuca rubra*. Forbs include frequent red and white clover; common vetch and occasional bush vetch; ribwort plantain; black medick and cow parsley.

14.) An area of rough grassland with *Arrhenatherum elatius*; *Dactylis glomerata*; *Poa trivialis*; ribwort plantain; ragwort; beaked hawks-beard; black medick; cut-leaved crane's-bill and occasional dock.

15.) Rough grassland with abundant *Arrhenatherum elatius* and frequent *Dactylis glomerata*; *Holcus lanatus* and *Bromus mollis*. Forbs include beaked hawks-beard; ragwort and occasional dock; white campion; poppy; hogweed; hairy tare; mugwort and horse radish.

16.) Abandoned gardens or allotments now overgrown by *Lolium perenne*; *Poa* spp.; *Dactylis glomerata*; *Holcus lanatus* and occasional *Bromus mollis*; *Festuca rubra*; ribwort plantain; white clover and beaked hawks-beard.

17.) Old orchard now overgrown by dense hawthorn; blackthorn and elder scrub.

18.) Former arable land now with abundant arable weeds such as wild radish;

19.) Visited on 13/07/09 by MF. Narrow pathway with old railway bridge to the west, nursery to the east side. The most interesting forbs are on the eastern side of the path where there is a wet ditch. Trees that are present are alder, oak, hawthorn, with bramble, meadow vetchling, meadow buttercup, common vetch, greater plantain, hogweed, yarrow, creeping cinquefoil, ground ivy, ragwort, broad-leaved dock, herb-Robert, hedge woundwort, creeping buttercup, black medick, male fern and creeping thistle.

SP15a

1. Appears to be semi-improved pasture on a north facing slope grazed short by horses. There is hawthorn scrub around a mostly dried up pond and scattered elsewhere, with cowslips found on the steeper parts of the slope.
2. Willow carr with a dense layer of bramble and nettle.
3. Recently cut meadow. A small uncut area in the middle contained abundant *Arrhenatherum elatius* and *Dactylis glomerata* with frequent black knapweed. Would benefit from a survey earlier in the season.
4. Apparently unused area of semi-improved grassland with abundant *Arrhenatherum elatius* and frequent *Phleum pratense*, prickly sow-thistle and bristly ox-tongue. Along the eastern edge nettles are abundant with cow parsley and hedge woundwort, while a drying pond is surrounded by teasel, bindweed and nettle with emergent vegetation including yellow flag iris and *Glyceria* sp. A ditch on the east of the fence contains abundant *Glyceria* sp. with *Carex* sp. and *Juncus inflexus*.
5. River Avon. At this point the river contains abundant *Schoenoplectus lacustris* and yellow flag iris with marsh woundwort, water mint and *Phalaris arundinacea*. Aquatic vegetation includes yellow water-lily and arrowhead. The islands are covered with a mix of mature willow and scrub. Many migrant hawkers seen during the survey.
6. Artificial loose boulder weir creating local cascade and marginal deadwater upstream. The river banks at this point are heavily reinforced by rip-rap, gabion and metal piling with little natural bank vegetation. A river lock is present on the north side resulting in the creation of an island dominated by willow scrub and tall herb. The weir is being colonised by nettle, marsh woundwort, *Phalaris arundinacea* and young willow.
7. Bideford Grange golf course. A recently created course proving popular with skylarks. A stream has been dammed and widened to produce a chain of ponds with *Typha latifolia*, water figwort, *Carex* sp., great willowherb and purple loosestrife.
8. Track with wide verges and hedgerow. The species are not particularly varied or unusual, but prolific and include garlic mustard, hemlock and fine grasses such as *Festuca rubra*. Further to the south the hedge contains trees such as ash and oak and other species such as dogwood, elder, hawthorn, rose and bramble.
9. Visited on 10/07/09 by MF. Vehicle track with linear scrub and trees.
10. Visited on 10/07/09 by MF. Small damp woodland area. Crack willow and ash. Evidence of running water flowing north to south. Forbs/marginals include ceeping buttercup, watercress.
11. Visited on 10/07/09 by MF. Site has many cultivated plants (rhododendron, climbing roses, lilac, box hedge), and used to have functioning public toilets, now dilapidated. Site is being encroached by common nettle, creeping thistle, and ragwort. However, there is a pond, surrounded by bulrush, hard rush, and meadowsweet. Dragonfly seen.
12. Visited on 10/07/09 by MF. Site recently cleared or cut back, having become overgrown. One mature goat willow, one crack willow tree.
13. Visited on 10/07/09 by MF. Area fenced off from grazing and recently planted with field maple, horse chestnut, silver birch, conifers. Meadow buttercup, creeping cinquefoil, great burnet, creeping bent, creeping buttercup. Many damselflies seen in rides, including banded damoselle, also 2 types of ladybird.

SP15b

- 1.) Grafton Lane verge. Predominantly *Arrhenatherum elatius* with *Dactylis glomerata*; greater knapweed; field scabious and dog rose. Uncut on the west side at time of survey. Visited on 09/07/09 by MF. Additional species: Woolly thistle, mugwort, common restharrow, greater plantain, musk thistle, yarrow, creeping cinquefoil, white campion, red campion, bramble, common nettle, creeping thistle, ground ivy, spear thistle, goose grass, hedge woundwort, common vetch, teasel, meadow vetchling. Field scabious not seen.
- 2.) Recently cut at the time of survey and unable to gain access. Could be semi-improved grassland but needs to be surveyed earlier in the season. Visited on 09/07/09 by MF. Field is now horse grazed. Margins have been left untouched due to electric fence. Forbs: bird's-foot-trefoil, meadow vetchling, lady's bedstraw, self-heal, black medick, creeping cinquefoil, red clover, field bindweed, white clover, creeping buttercup.
- 3.) Small field of semi-improved grassland adjoining garden. Predominantly *Arrhenatherum elatius* with frequent *Dactylis glomerata* and occasional *Alopecurus pratensis*; *Lolium perenne*; *Bromus* sp. and *Poa* spp.. Broad-leaved dock; spear thistle; creeping thistle; prickly sow-thistle; bristly ox-tongue and creeping buttercup are all common but less frequent were field speedwell; dove's-foot crane's-bill and common mallow. There is recent scattered broad-leaved plantation with species such as buckthorn; ash; oak; alder and field maple. A small recently dug pond contains *Typha latifolia*; *Phalaris arundinacea* and *Juncus effusus*. The roadside hedge is made up of a good mix of hawthorn; blackthorn and elm with occasional ash; elder; dog rose and bramble. The area is popular with gold finches.
- 4.) Mixed broad-leaved tree plantation around three sides of semi-improved grassland. Access was not available but appears to be quite herb rich including cowslip; black medick and occasional creeping thistle. Grasses include *Arrhenatherum elatius* and *Bromus erectus*.
- 5.) Narrow area of semi-improved grassland alongside the greenhouses of Crab Tree Farm with frequent *Arrhenatherum elatius*; *Poa* spp.; *Dactylis glomerata* and occasional patches of *Festuca rubra*. Herbs include abundant ribwort plantain with frequent bristly ox-tongue; hawkweed sp.; creeping buttercup; dove's-foot crane's-bill and mallow. Less common were cut-leaved crane's-bill; field speedwell; black medick and bugle. To the north an empty water storage pit is surrounded by approximately 3-4m banks of loose soil and rubble colonised by nettle; dock; potato and black nightshade with occasional red bartsia. The base of the pit is bare soil and a partial covering of black plastic.
- 6.) Rough semi-improved horse grazed grassland with *Poa* spp.; *Arrhenatherum elatius*; *Dactylis glomerata* and poor in forbs.
- 7.) Disused railway line now managed as a private nature reserve; lined by hawthorn and elder scrub with occasional dogwood; buckthorn and one mature walnut and a grassy path along the centre. The western half is embanked; made up of clinker; rubble and loose soil and is dominated largely by the elder and hawthorn with occasional young oak. As a result the slope especially on the south has a great deal of bare soil; with occasional grassed areas and patches of dog violet. In areas where the path along the top is less shaded there are patches of lady's bedstraw; perforate St. John's wort; wild and barren strawberry and occasional *Brachypodium pinnatum* and white campion. Further east; beyond the embanked section the soil is less well drained with occasional

Deschampsia caespitosa; *Carex pendula*; ragged robin; more abundant wild and barren strawberry and dog-violet; primrose; *Brachypodium sylvaticum*; agrimony and ground ivy. At the eastern end common spotted orchid and cowslip are reported in an area of *Festuca rubra*.

8.) No direct access. Rough grassland that appears to have been left uncut or grazed for some time; with *Arrhenatherum elatius*; *Dactylis glomerata* and ribwort plantain the dominant species.

9.) Rough grassland dominated by coarse grasses such as *Arrhenatherum elatius*; *Dactylis glomerata* and *Elytrigia repens* with scattered hawthorn and dog rose scrub. Occasional patches of horse radish and *Juncus inflexus* occur. Could benefit from an earlier survey.

10.) No direct access. Rough semi-improved grassland reputed to be cut once a year. At the time of survey *Arrhenatherum elatius* appeared to be the most frequent grass with *Dactylis glomerata*. Ribwort plantain; nettle and creeping thistle were all common and cowslips were reported to have been present earlier in the year. There are dense stands of hawthorn and elder scrub close to the disused railway line.

11.) Bideford Grange Golf Course; constructed on formerly arable land in the early 1990's. Appears to be popular with skylarks and includes several new ponds.

12.) Hawthorn scrub; dense in places on steep east facing slope. Used for game bird rearing.

13.) Scrub and broad-leaved woodland on a south-west facing slope. The lower half is predominantly hawthorn and managed for pheasant rearing; while the upper half has had some conservation planting. Good for butterflies - green-veined white; orange tip; small heath; holly blue; peacock and small tortoiseshell seen during survey.

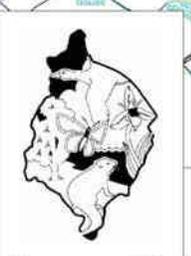
14.) New farm buildings erected. The verge along the footpath contains cowslip; perforate St. John's wort and black knapweed with *Arrhenatherum elatius* and *Dactylis glomerata*. Tall ruderals dominate the strip between the buildings and the road.

15.) Visited on 09/07/09 by MF. Small area of farm track where bird's-foot-trefoil, field bindweed, yarrow, creeping cinquefoil, and ribwort plantain abundant. There is also greater plantain, scentless mayweed, field pansy, small-flowered crane's-bill.

16.) Visited on 09/07/09 by MF. Area of scattered scrub and grassland surrounded by old wire fence on north and west sides. Forbs: bird's-foot-trefoil, ribwort plantain, field bindweed, red clover, white clover, creeping thistle, common vetch, agrimony, smooth hawksbeard, yarrow, autumn hawksbit, smooth tare, creeping cinquefoil, lesser knapweed, common nettle. In the south-west corner of the site at the base of the footpath way marker is a large patch of meadow vetchling, and to the right of the footpath. Scrub is hawthorn, ash, oak.

17.) Visited on 09/07/09 by MF. Quality of grassland improves gradually going uphill as the roadside verge widens. Meadow vetchling is abundant in 2 areas within uppermost 50 m on right hand verge. The left verge is dominated by creeping thistle, but there is a significant area of perforate St John's wort and black meddick, mugwort, and lesser swine cress. Forbs on both sides include ribwort plantain, burdock, creeping cinquefoil, yarrow, creeping thistle, field bindweed, common mallow, hemlock, rough chervil, creeping buttercup, common nettle, scentless mayweed. Hedgerow includes blackthorn, bramble, hazel, ash, and hawthorn.

Henley-in-Arden



North

BEAUDESERT CP

Henley-in-Arden

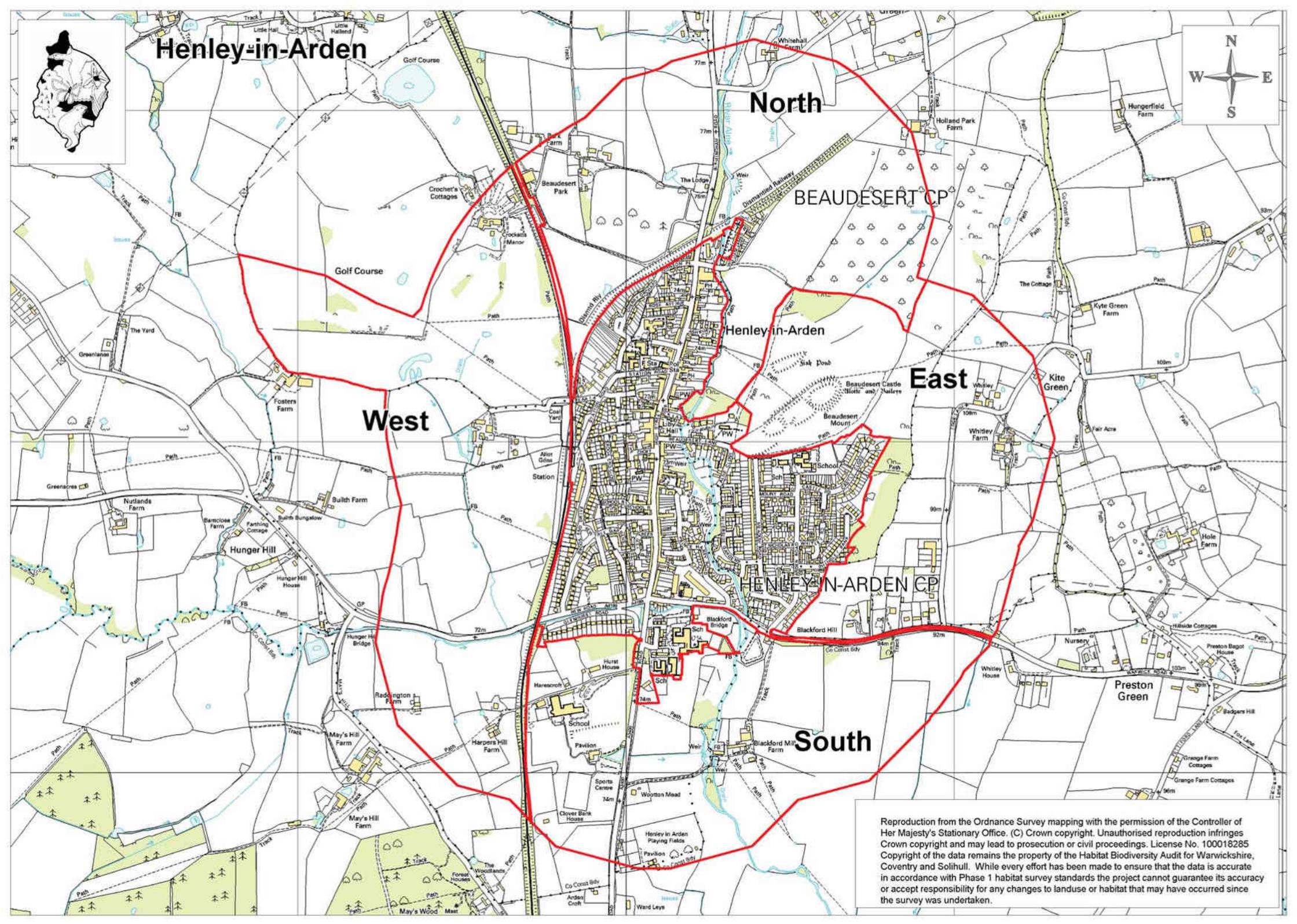
East

West

HENLEY-IN-ARDEN CP

South

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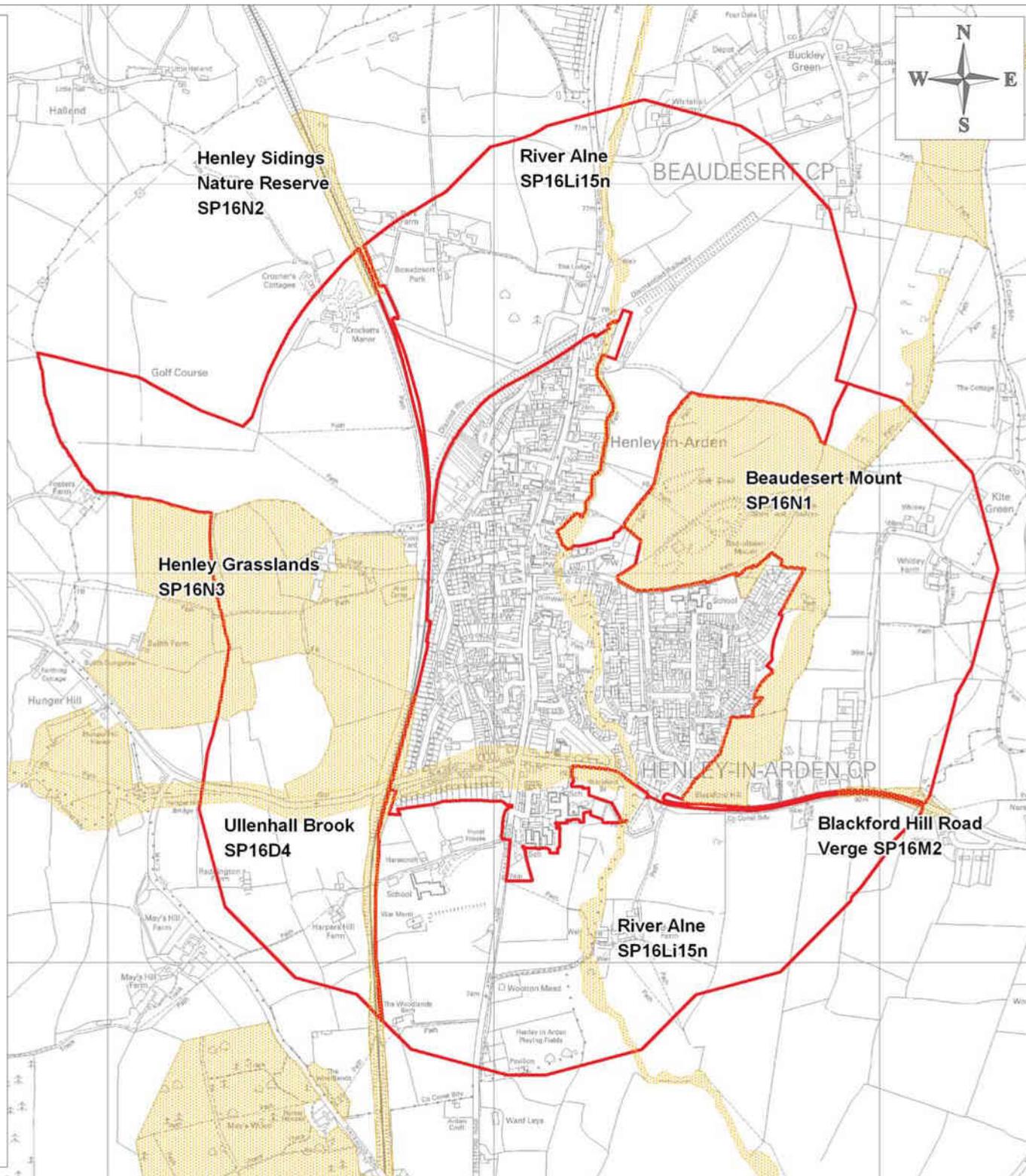


Henley-in-Arden Local Sites

-  Potential Local Wildlife Site (pLWS/SINC)
-  Local Wildlife Site (LWS/SINC)
-  Rejected potential Local Wildlife Site
-  Destroyed Local Wildlife Site
-  SSSI
-  RIGS
-  LNR

NB River Alne has now been designated as Linear LWS/SINC and is awaiting digitisation in mid to late 2010.

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Henley - HBA

Phase I Habitat Survey

Habitat Types

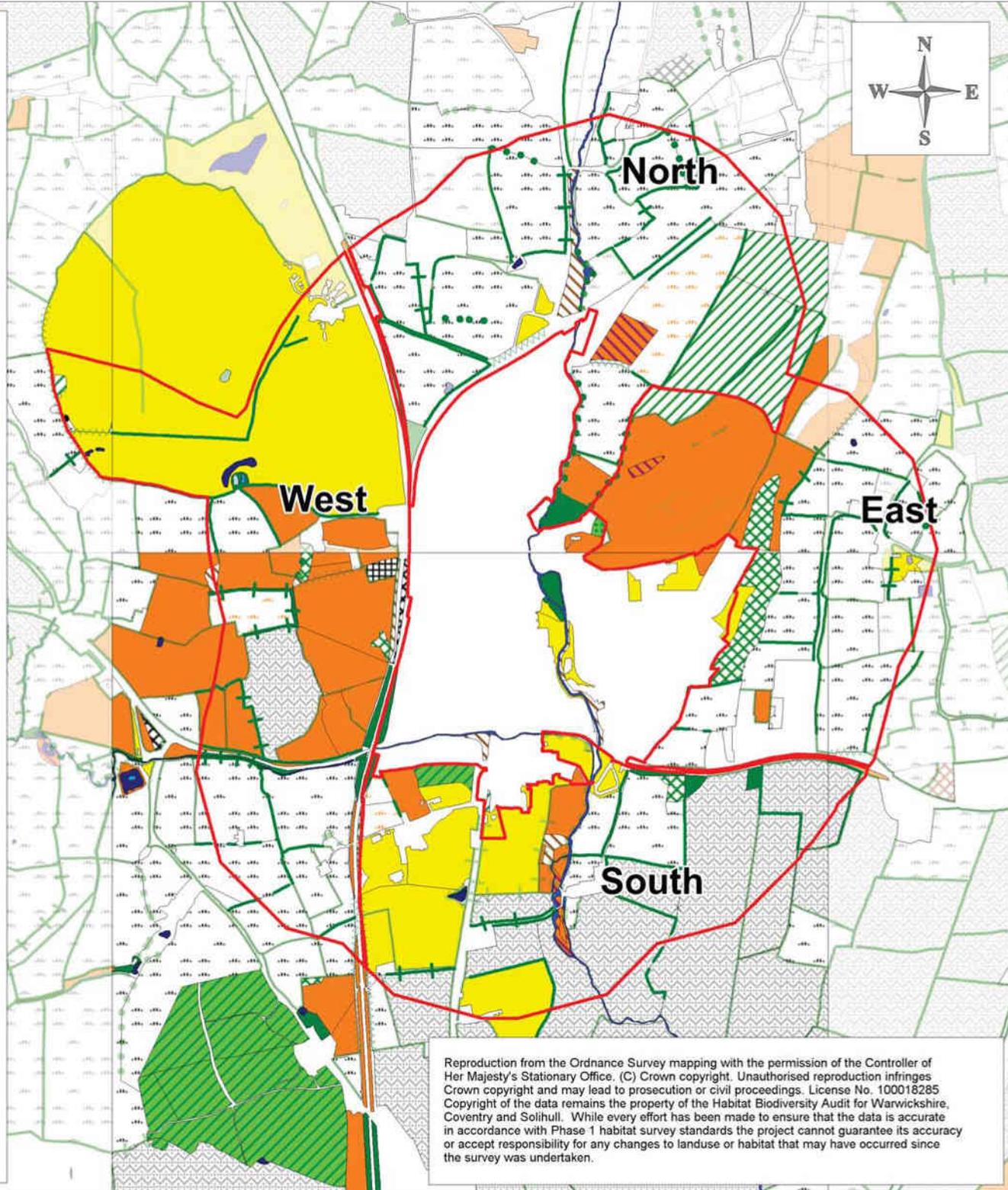
	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		

NB Data with a survey date before 2005 is displayed with muted tones



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Henley North

Area: 81.2 hectares



Phase I Habitat Survey

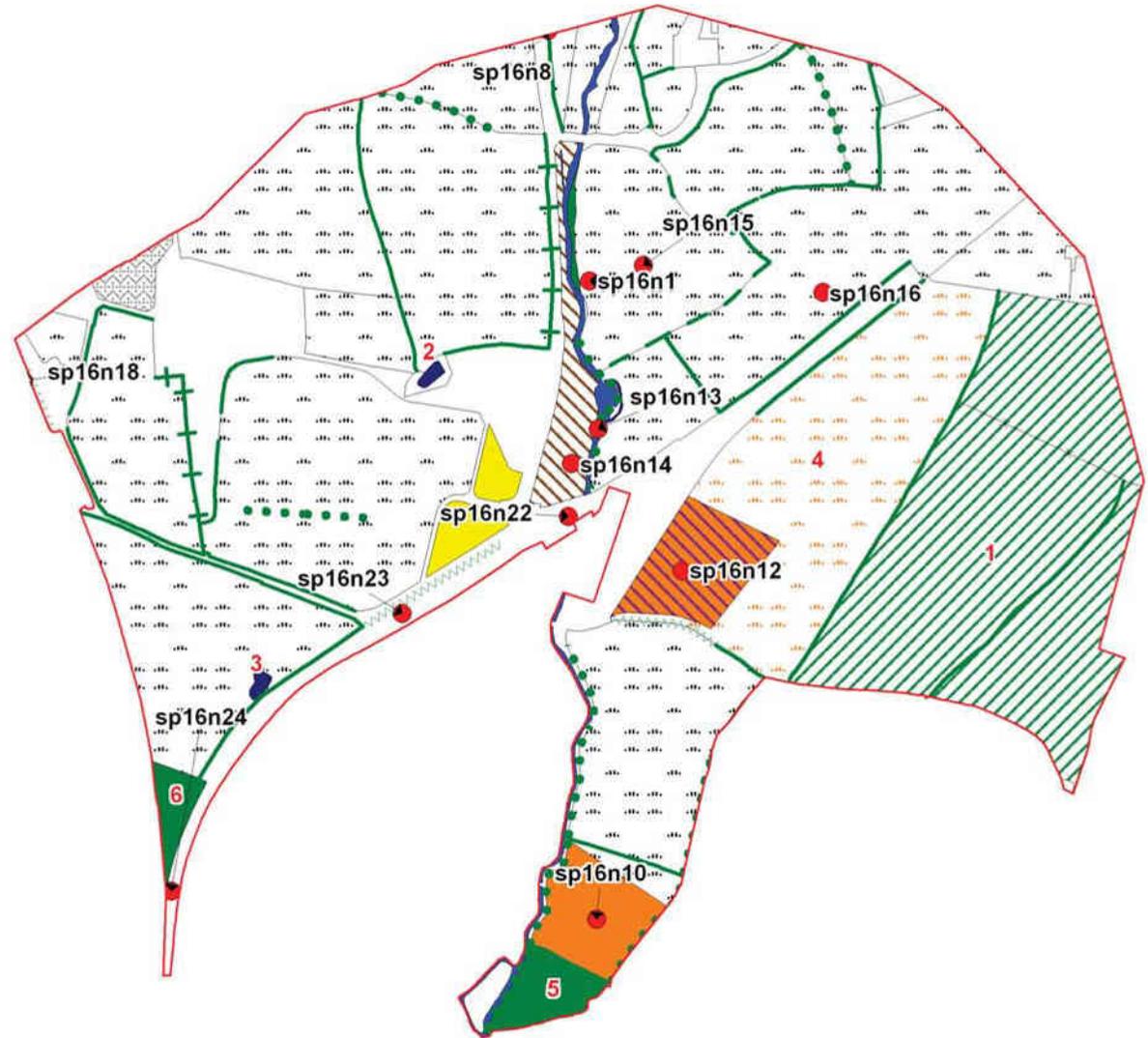
Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
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	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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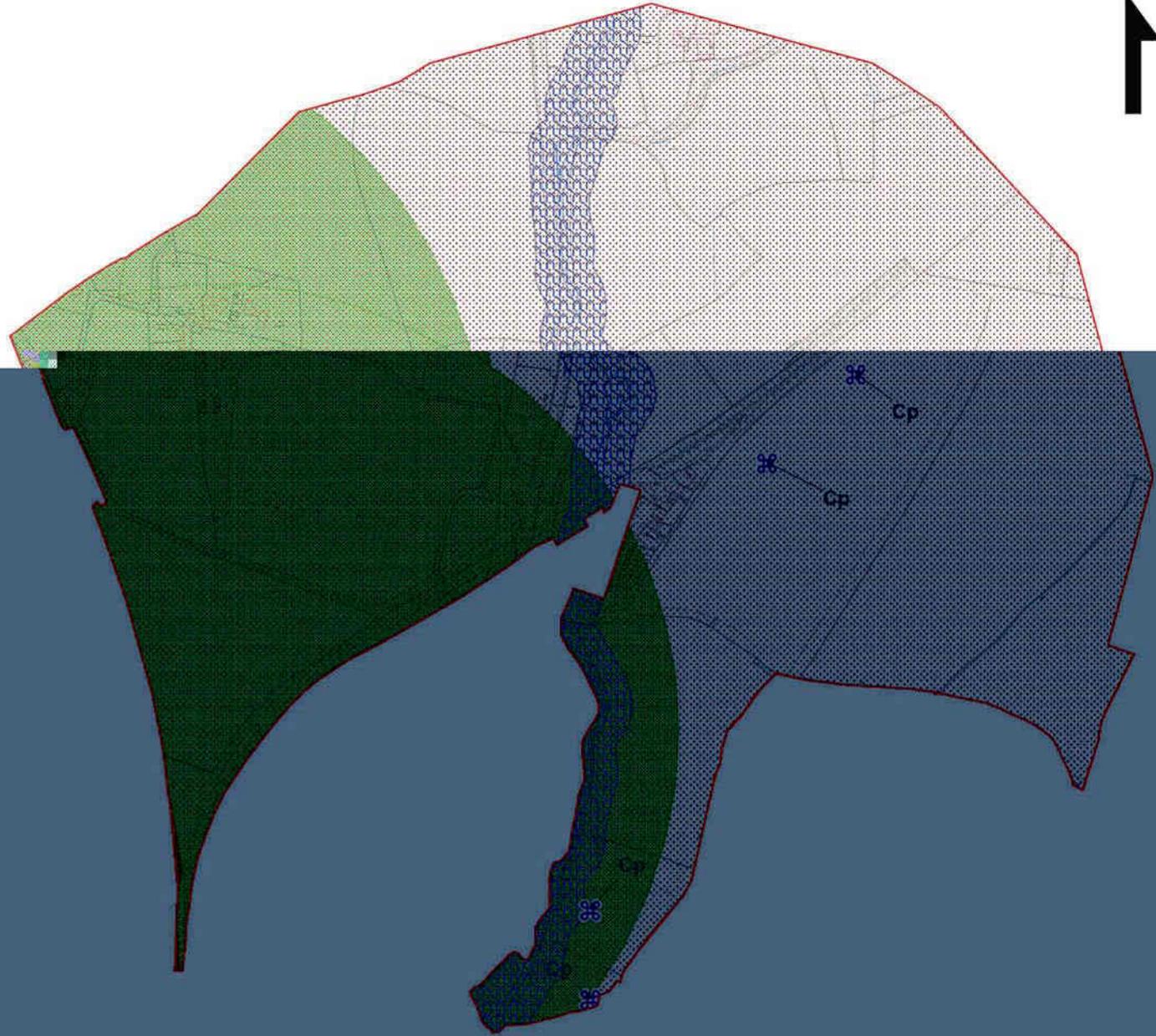
WARWICKSHIRE
BIOLOGICAL
RECORDS CENTRE



Henley-in-Arden
North

Species

-  Buffer zone for otter, water vole or white-clawed crayfish
-  Buffer zone for great crested newt, adder, grass snake or slow worm
-  Buffer zone for bat



-  Brown Hare
-  Reptile/amphibian
-  Barn Owl
-  BAP Butterfly
-  Black poplar
-  Veteran tree
-  County rare plant

Warwickshire Biological Records Centre
Museum Field Services
The Butts
Warwick
CV34 4SS
Tel: (01926) 418060
Fax: (01926) 412975

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Henley East

Area: 68.3 hectares

Phase I Habitat Survey

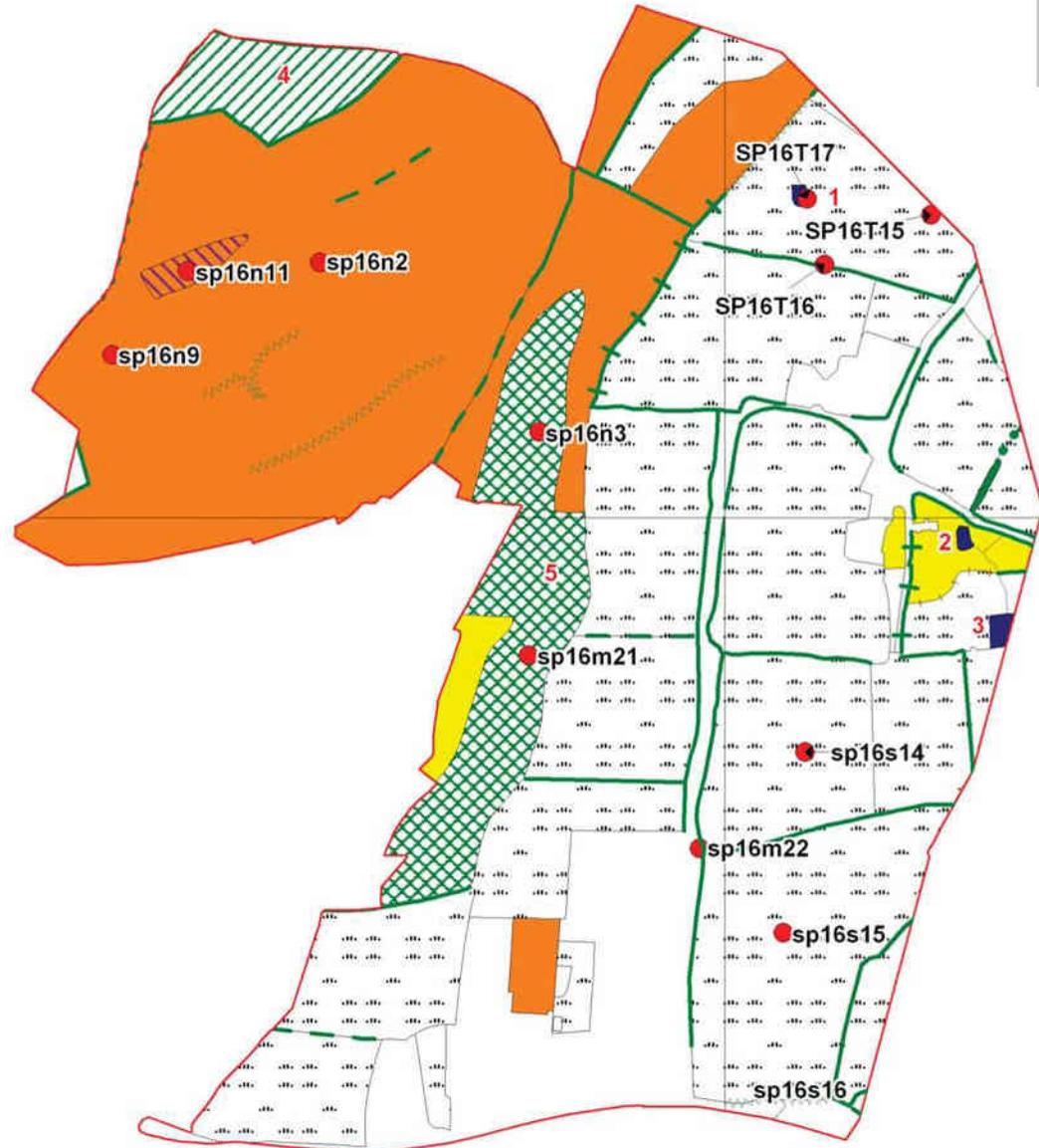
Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
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	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
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	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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Henley-in-Arden East

Species



Buffer zone for otter, water vole
or white-clawed crayfish



Buffer zone for great crested newt,
adder, grass snake or slow worm



Buffer zone for bat



Brown Hare



Reptile/amphibian



Barn Owl



BAP Butterfly



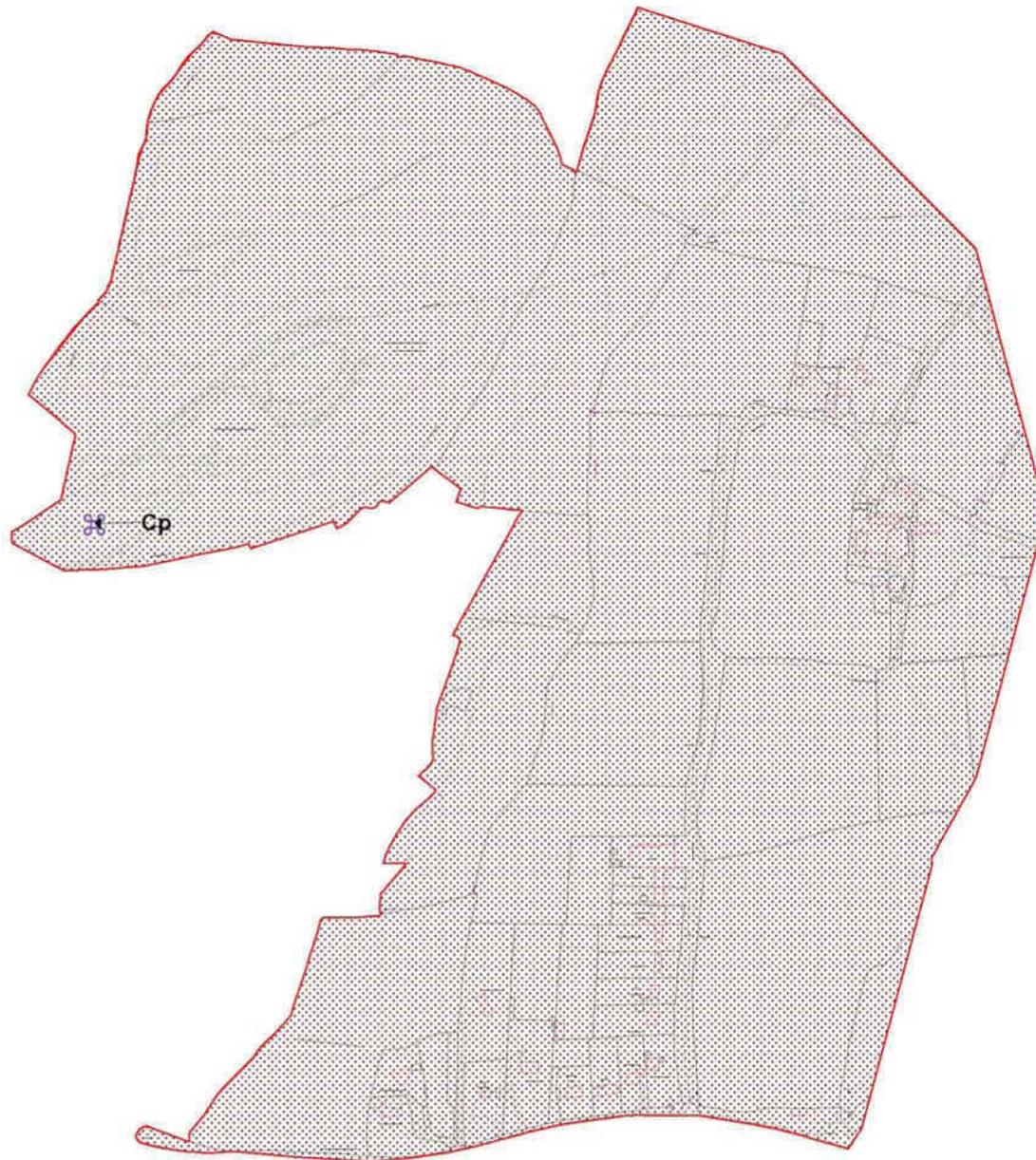
Black poplar



Veteran tree



County rare plant





Henley South

Area: 70.4 hectares



Phase I Habitat Survey

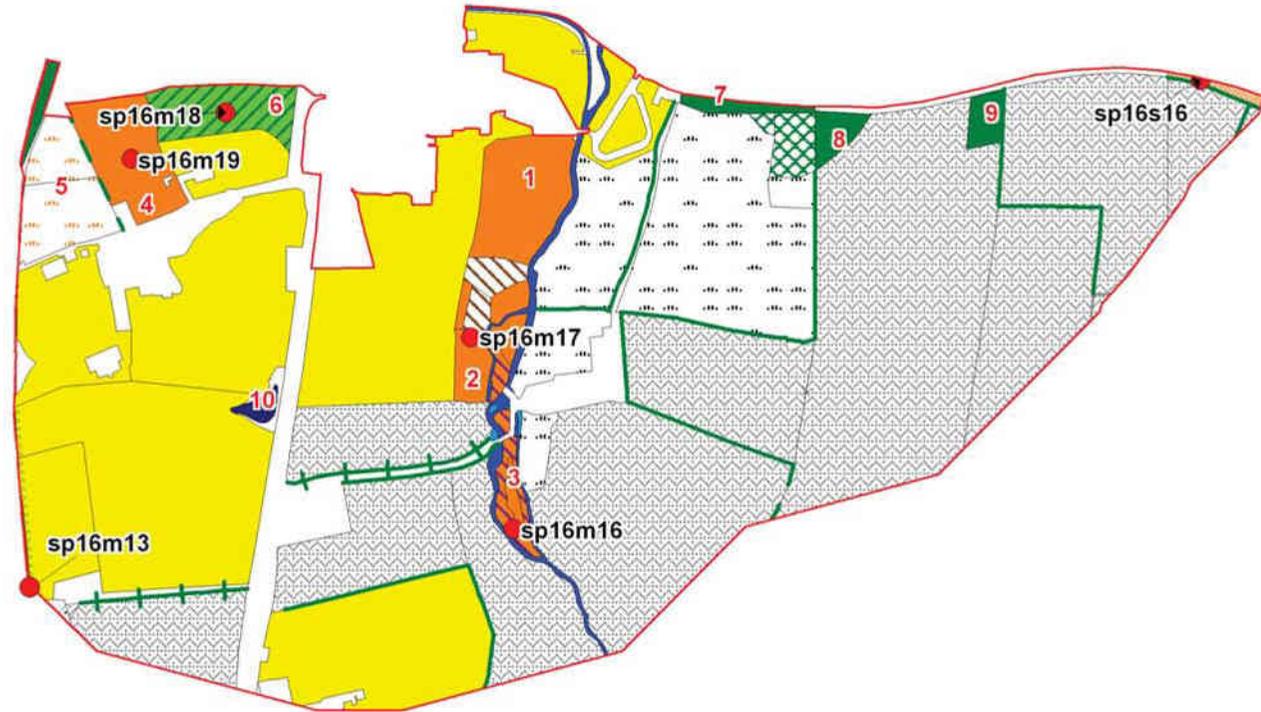
Habitat Types

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	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
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	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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Henley-in-Arden South

Species



Buffer zone for otter, water vole
or white-clawed crayfish



Buffer zone for great crested newt,
adder, grass snake or slow worm



Buffer zone for bat



Brown Hare



Reptile/amphibian



Barn Owl



BAP Butterfly



Black poplar



Veteran tree



County rare plant

Sherard's Downy-rose

Warwickshire Biological Records Centre
Museum Field Services
The Butts
Warwick
CV34 4SS
Tel: (01926) 418060
Fax: (01926) 412975

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Henley West

Area: 79.6 hectares

Phase I Habitat Survey

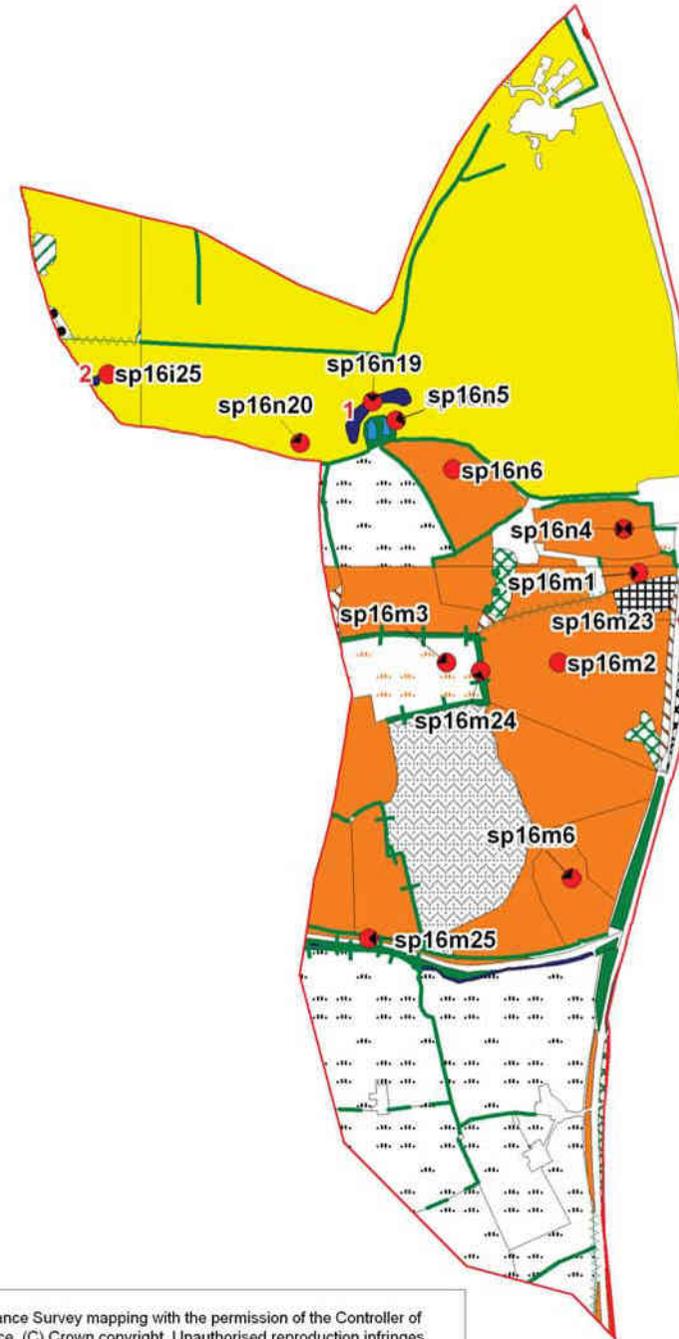
Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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Henley-in-Arden West

Species

 Buffer zone for otter, water vole
or white-clawed crayfish

 Buffer zone for great crested newt,
adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

 Barn Owl

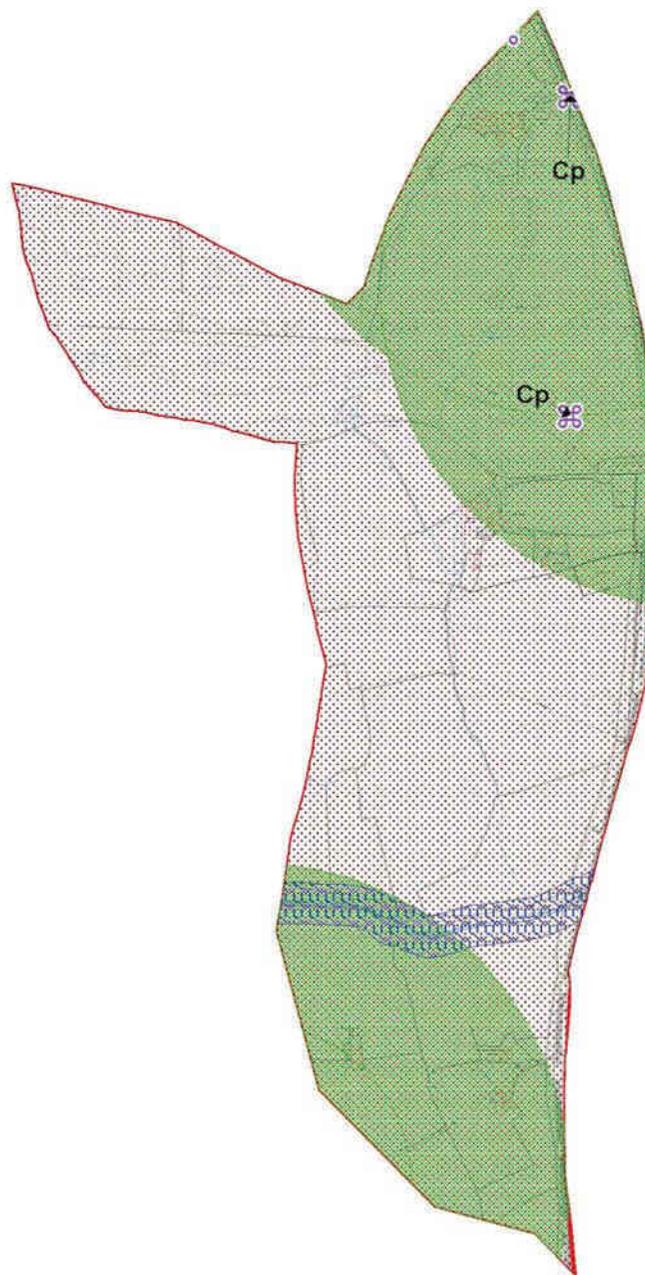
 BAP Butterfly

 Black poplar

 Veteran tree

 County rare plant

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Key for Reptile/Amphibian species

Tv	<i>Triturus vulgaris</i> (AKA <i>Lissotriton vulgaris</i>)	Smooth Newt
Rt	<i>Rana temporaria</i>	Common Frog
Bb	<i>Bufo bufo</i>	Common Toad
Lv	<i>Lacerta vivipara</i> (AKA <i>Zootoca vivipara</i>)	Common Lizard

Key for Red Listed and UK BAP Butterfly species

Please note that Small Blue and Dingy Skipper are also LBAP species

Cm	<i>Cupido minimus</i>	Small Blue
Cp	<i>Coenonympha pamphilus</i>	Small Heath
Et	<i>Erynnis tages</i>	Dingy Skipper
Lc	<i>Limenitis camilla</i>	White Admiral
Lm	<i>Lasiommata megera</i>	Wall
Pm	<i>Pyrgus malvae</i>	Grizzled Skipper
Swa	<i>Satyrrium w-album</i>	White-letter Hairstreak

Appendix of Target Notes relating to Phase 1 Habitat Survey Maps
(in alpha-numeric order)

Henley-in-Arden Target Notes

SP16m

1. A small area of semi-improved grassland (probably disused allotments) dominated by coarse grasses with abundant *Dactylis glomerata*, *Elytrigia repens* and *Arrhenatherum elatius* with patches of cow parsley. Occasional black medick, hairy tare and red clover.
2. Poor semi-improved pasture grazed by sheep dominated by *Cynosurus cristatus* with occasional *Lolium perenne* and *Alopecurus pratensis*. Forbs are rare and concentrated around the edges of the field and include black medick, white clover, common mouse-ear and bulbous buttercup.
3. Poor semi-improved hay meadow dominated by *Bromus mollis*, with occasional *Alopecurus pratensis* and *Cynosurus cristatus*. *Holcus lanatus* is present near the bottom of the east facing slope and a strip of sorrel adjacent to the northern hedgerow. The abundant black medick and occasional bird's-foot-trefoil is presumably responsible for the presence of common blue and brown argus butterflies. Small heath butterfly also seen.
4. Poor semi-improved hay meadow with abundant *Bromus mollis* and frequent *Cynosurus cristatus*, *Lolium perenne* and *Poa* spp. Forbs are rare with only creeping buttercup and dock reaching significant numbers. Skylarks observed.
5. Poor semi-improved hay meadow dominated by *Bromus mollis* with frequent *Cynosurus cristatus* and *Alopecurus pratensis*. There are small amounts of black medick and extensive patches of common vetch. A badger sett is present in the dense scrub adjacent to where the footpath meets the western edge of the field.
6. Poor semi-improved pasture with extensive patches of creeping and spear thistle and nettles with large bare areas caused by its use as an overflow car park for Henley market. The grasses are a mix of *Alopecurus pratensis*, *Cynosurus cristatus* and *Poa* spp.
7. Semi-improved pasture with a mix of frequent *Bromus mollis*, *Holcus lanatus*, *Anthoxanthum odoratum* and *Cynosurus cristatus*. Forbs include frequent sorrel and occasional black medick, tufted vetch (near stream hedge) and bird's-foot-trefoil. Pignut can be found in small numbers near the south-western footpath entrance.
8. A recently excavated pond (probably within the last five or six years) with no direct access.. It is fenced off from livestock and is edged with *Juncus* sp., *Typha latifolia* and yellow flag and has a small patch of yellow water-lily. A small island covered in with willow has moorhens nesting.
9. Railway cutting. To the north of the bridge is mostly hawthorn scrub near the top of the slope with a mixture of coarse and fine grasses below. No direct access so further identification not possible, but abundant ox-eye daisy.
10. Semi-improved rough grassland. Appears to be largely unmanaged or grazed, with a reasonable mix of coarse and fine grasses. There is abundant *Elytrigia repens*, *Arrhenatherum elatius* and *Dactylis glomerata* with areas of *Deschampsia caespitosa*. *Festuca rubra*. *Poa angustifolia* and *Agrostis* sp. occur in patches with lady's bedstraw and bird's-foot-trefoil.

Creeping cinquefoil is abundant and there is abundant common mouse-ear, meadow buttercup, meadow vetchling and common vetch. Occasional patches of *Juncus agglomerata* can be found near the woodland edge.

11. Ungrazed field with a mix of *Alopecurus pratensis*, *Cynosurus cristatus*, *Dactylis glomerata* and occasional *Anthoxanthum odoratum* and *Lolium perenne*. There are few forbs, including bulbous buttercup, white clover and occasional sorrel, common cat's-ear and shepherds cress.

12. A shallow pool, open to the north-west with celery-leaved buttercup and *Alopecurus geniculatus*. There is a large patch of *Carex riparia* to the south with nettles and *Carex pendula* at the edges. The north-east, east and south banks are shaded by broad-leaved semi-natural woodland made up of oak, hawthorn, apple, cherry, rose, elder and hazel. Muntjac seen.

13. Railway embankment with a mosaic of hawthorn/rose scrub and grassland.

14. An area of swamp situated north-west of Wootton Pool, dominated by *Typha latifolia* with frequent *Carex riparia* and yellow flag. There is some willow and elder scrub encroachment to the north and the area is bordered by marshy grassland, *Arrhenatherum elatius*,

Dactylis glomerata and *Holcus lanatus* with abundant meadowsweet, and occasional meadow cranesbill, bog stitchwort and redshank.

To the north-west the swamp runs into willow carr and alder/poplar plantation.

15. River Alne from Wootton Pool north to Henley. Largely surrounded by arable fields and may be suffering from chemical run off. The river is bordered by a mixture of alder, willow and hawthorn with tall ruderals in unshaded areas (mostly cow parsley, hogweed and some hemlock). Coarse grasses such as *Dactylis glomerata* and *Arrhenatherum elatius* dominate the top of the bank bordering the field, with occasional patches of dame's-violet and wintercress. Aquatic vegetation consists of watercress, brooklime and *Glyceria* sp. with *Phalaris arundinacea* in more open stretches. Abundant banded demoiselle, blue-tailed and common blue damselfly. Good for yellowhammers and skylark.

16. A mosaic of marshy grassland, willow scrub, swamp and tall ruderal between meanders of River Alne. Wetland species such as butterbur, burdock and *Typha latifolia* found between willow carr and areas of meadowsweet, nettles and umbellifer spp. Good for songbirds, especially warblers.

17. A mixture of semi-improved grassland and scrub. To the north of the footpath the grassland has been invaded by hawthorn, field rose, dogwood and guelder rose as well as young cherry which has presumably been planted. Some patches are dominated by tall ruderal species such as cow parsley, hogweed and nettle between coarse grasses, of which *Dactylis glomerata* and *Arrhenatherum elatius* are the most common. To the south of the footpath these coarse grasses dominate with little scrub.

18. Mature mixed plantation woodland made up of larch, spruce, lime, sycamore, horse chestnut and exotics, with an understory of young self seeded sycamore and elder. Elm suckers are common along the western edge. The ground flora includes abundant ivy, dog mercury and herb Robert with extensive nettle patches and occasional spotted dead-nettle and lords and ladies. There is some evidence of muntjac and badger activity.

19. Semi-improved pasture last grazed by cattle over six years ago, now rough grassland dominated by *Arrhenatherum elatius* with occasional *Dactylis glomerata*

and *Alopecurus pratensis*. Forbs are infrequent for the most part with occasional sorrel and germander speedwell while the edges are dominated by tall ruderal species. There are occasional patches of shorter finer grasses such as *Festuca rubra*, where yarrow, meadow buttercup, meadow vetchling and bird's-foot-trefoil are found.

20. River Alne in Henley. Bordered by amenity grassland for the most part along the western bank and a mixture of tall ruderal and hawthorn/elder scrub with occasional field maple and mature willow, alder and oak.

21. Hay's Wood. A mixed plantation woodland with conifers (mostly fir, spruce and pine) more numerous than broad-leaved species (mostly birch and oak with occasional ash and beech). Young sycamore and hazel make up the patchy understorey with the occasional honeysuckle. There are extensive areas of both bramble and bracken. The greatest variety of species can be found along the rides. Grasses include *Arrhenatherum elatius*, *Dactylis glomerata*, *Holcus lanatus*, *Poa trivialis*, *Milium effusum* and *Anthoxanthum odoratum*. A number of rushes and sedges are present such as *Carex remota*, *Juncus effusus* and *Luzula multiflora*. Other typical woodland plant species are found such as bluebell, wood sorrel and foxglove as well as hedge woundwort, yellow pimpernel, dove's-foot and cut-leaved cranesbills, herb Robert and wood sage. There is evidence of muntjac activity and a roe deer hind with a fawn were seen during the survey.

SP16s

1.) Broad-leaved plantation consisting mostly of mature alder and poplar with occasional willow occurring along the canal side. No understorey. The ground flora is a mix of tall ruderal species (cow parsley; hogweed and nettles) and areas of red campion with frequent hedge woundwort.

2.) Semi-improved grassland. No direct access; but appears to be dominated by coarse grasses such as *Arrhenatherum elatius* and *Dactylis glomerata* with patches of nettle and creeping thistle. There is frequent creeping buttercup and occasional sorrel.

3.) Small area of tall ruderal species; including abundant nettle; cow parsley; hogweed and docks. Coarse grasses such as *Arrhenatherum elatius* and *Dactylis glomerata* also present. Along the canal towpath emergent species such as yellow flag; *Carex riparia* and *Phalaris arundinacea* are common; with occasional gipsywort; meadowsweet and fen bedstraw.

4.) Mature poplar plantation with little or no understorey and a ground flora of cow parsley; cleavers and red campion. Near to the towpath there are patches of elder scrub and willow.

5.) No direct access - but appears to be semi-natural hay meadow with abundant *Arrhenatherum elatius*; *Dactylis glomerata* and *Alopecurus pratensis*. Near to the canal *Holcus lanatus* is locally dominant. There appears to be frequent sorrel throughout.

6.) Poor semi-improved with abundant *Alopecurus pratensis*; *Phleum pratense* and *Bromus mollis*; and frequent *Poa* spp. *Holcus lanatus* is locally dominant in patches and black medick frequent throughout. The occasional creeping buttercup; sorrel and broad-leaved dock can also be seen.

7.) A small area of semi-improved grassland found between set aside and the River Alne. Grasses include frequent *Alopecurus pratensis*; *Holcus lanatus* and *Poa trivialis* with occasional patches of *Festuca rubra*. Forbs include lady's smock;

meadowsweet; meadow buttercup and occasional lesser knapweed and patches of great burnet. Several skylark and yellowhammer heard.

8.) No direct access - but this appears to be semi-improved grassland. Patches of *Holcus lanatus* were visible from the road; but since the field had been recently grazed more species identification was not possible.

9.) Semi-improved meadow. Coarse grasses predominate around the edges of the field; especially *Arrhenatherum elatius* and *Dactylis glomerata*; while typical hay seed mix species are more common towards the centre: (namely *Alopecurus pratensis*; *Phleum pratense* and *Poa* spp.). Forbs include frequent white and red clover; and occasional patches of lady's bedstraw and sorrel. A small pond to the east of the field contains abundant duckweed and water plantain; with occasional *Typha latifolia* and *Juncus effusus*. It is surrounded by a thick hedge of blackthorn; bramble; elder and bittersweet.

10.) Very young broad-leaved plantation. Difficult to identify species as they are still tubed; but definitely includes ash and oak.

11.) Unable to gain access to this site. A previous survey done in 1989 mentions that this woodland on an ancient hillfort site; has a canopy largely dominated by oak; with old hazel coppice below; and an area of ash-wych elm; ash-maple in the middle.

12.) Unable to gain access. Appears to be semi-improved grassland on a fairly steep slope.

13.) Disused road; with a high banked and dense hedgerow on both sides. The hedge itself varies in nature along it's length; with stretches of hawthorn; blackthorn; dogwood and hazel and the occasional elder and oak. Bramble is abundant throughout. . Lady's bedstraw is common; as is lesser stitchwort; smooth tare; black medick and bird's-foot-trefoil. There are occasional patched of knapweed and one or two specimens of gorse. The grassed verge near the main road has a good cover of restharrow; and purple toadflax was found growing on building rubble.

SP16n

1. Stream course shaded by a mixture of willows and alder with a dense ground cover of ransom and lesser celandine.

2. Beaudesert Castle area. A mosaic of grassland, tall herbs and hawthorn scrub. Grass species include *Dactylis glomerata*, *Festuca rubra* with *Briza media* identified on previous surveys. A popular area for informal recreational use, dog walkers etc.

3. An area of dense hawthorn scrub with very little ground flora.

4. Semi-improved grassland. Dominated by coarse grasses such as *Alopecurus pratensis*, *Arrhenatherum elatius* and *Dactylis glomerata*.

5. Small area of swamp with *Typha latifolia* and *Carex riparia*, bordered by dense bramble and lined with willow and aspen.

6. No direct access but appears to be semi-improved with *Alopecurus pratensis*, *Poa* spp. and *Dactylis glomerata*.

7. Strip on steep sided west facing slope of semi-improved grassland with ridge and furrow. Not separated from adjacent improved grassland by any physical border. Most abundant grasses are *Dactylis glomerata*, *Agrostis tenuis* and *Arrhenatherum elatius*.

8. Visited on 17/09/09 by MF. Two small areas of poor semi-improved grassland either side of an area of scrub and plantation. White clover, curled dock, hedgerow crane's-bill, smooth tare, creeping thistle creeping buttercup.

9. Visited on 17/09/09 by MF. Semi-improved meadow recently hay cut. Unable to identify much but found crested dogstail and creeping thistle.
10. Visited on 01/2/10 by MF. Ash and hawthorn dominated semi-natural woodland.
11. Visited on 01/2/10 by MF. Section of old railway embankment to west of bridge on Birmingham Road. The wooded areas can be walked along and contain ground ivy, common nettle, creeping buttercup, dog rose, bramble, holly, crab apple, wild carrot, wood avens, herb Robert. Ash, ash saplings, hawthorn make up the majority of the tree species present. The banks are covered with grasses, mosses, brambles, common nettles.
12. Visited on 01/2/10 by MF. Unable to access disused railway which forms a broad cutting in its southern section. A track on its eastern side was used to follow the disused railway from Bear Lane until 250 m north private land prevented further views of the cutting. Small woodland is populated with silver birch, ash and hawthorn.

SP16t

1. Small area of semi-improved rough pasture bordered by a stream to the south and a drainage ditch to the north with abundant *Dactylis glomerata*, *Deschampsia caespitosa*, *Arrhenatherum elatius* and *Holcus lanatus*. Forb species include black knapweed, lady's-smock, hogweed and common sorrel. Along the stream bank there is hawthorn and alder scrub with abundant ransom and lesser celandine. *Glyceria plicata* and *Phalaris arundinacea* grow in the stream near the bridge, while the ditch contains rosebay willowherb and is lined by hawthorn and willow.
2. Species poor semi-improved grassland with *Alopecurus pratensis*, *Dactylis glomerata*, *Holcus lanatus* and occasional small patches of *Festuca rubra*.
3. Species poor semi-improved with *Alopecurus pratensis*, *Dactylis glomerata* and *Holcus lanata*. A small swampy area is all that remains of a pond along the course of the stream with *Typha latifolia* and *Juncus effusus*. Between this area and the bridge there is a stretch of marsh with marsh marigold, willowherb, water mint, water dock, large bitter cress, meadowsweet and creeping buttercup.
4. No direct access but appears to semi-improved grassland with *Deschampsia caespitosa* and *Dactylis glomerata* and an area of rush pasture near to the stream.
5. Semi-improved grassland, not grazed or cut at the time of survey, with *Agrostis tenuis*, *Cynosurus cristatus*, *Dactylis glomerata*, *Anthoxanthum odoratum* and *Phleum pratense*. Frequent *Juncus conglomeratus* and pignut are also present.
6. No direct access but appears to be semi-improved meadow, uncut and not grazed at time of survey. Grass species include *Dactylis glomerata*, *Agrostis* sp. *Phleum pratense* and *Elytrigia repens*.
Good for voles judging by the amount of kestrel activity.
7. An area of semi-natural broad-leaved woodland, that probably originated as plantation. Abundant ash is interspersed with oak, alder and the occasional Scott's pine. At the bottom of the slope the wood is bordered by a stream lined by willows, hazel and alder, with a ground flora including ransom, nettles, *Carex pendula* and the occasional cowslip. The understorey of the interior of the wood is comprised mostly of alder, hazel, blackthorn, hawthorn and abundant ivy, with a ground flora of bramble, bluebell and dog mercury and frequent archangel and moschatel.
8. Dismantled railway lined with a mixture of hawthorn, oak, ash and elder with much bramble, ivy, dog mercury and nettles. The line enters a very steep sided cutting approximately 60' deep at it's western end, with oaks, ash, hawthorn and elder along the top and hawthorn scrub where the slope allows. In the steepest

areas there is bare earth with signs of slippage taking place. The wooded area at the top of the slope a ground flora of dog mercury, red campion, garlic mustard and the occasional cowslip. A few specimens of very mature ivy are present on some of the oaks, with trunks up to 8 inches in diameter.

9. Predominantly oak woodland with a dense understorey of hawthorn, hazel and holly. Sparse ground flora of bluebell and ivy.

10. An area of semi-improved grassland along the line of a steep sided escarpment with patches of dense and scattered hawthorn scrub regularly used by dog walkers. Grasses include *Dactylis glomerata*, *Poa* spp., *Festuca rubra* and *Briza media*, with forb species such as lady's bedstraw, pignut and the odd cowslip. Along the top of the slope where it borders with improved fields there are occasional old 'heart rot' oaks.

11. No direct access but appears to be a small poorly drained pasture at the foot of the escarpment with coarse grasses such as *Deschampsia caespitosa* and *Holcus lanatus* and *Juncus* sp. A new pond has been excavated at the western end, not vegetated at time of survey.

12. Rough pasture on steep sided west facing slope grazed by sheep. *Cynosurus cristatus*, *Dactylis glomerata*, *Agrostis tenuis* and *Luzula campestris* are present with few forb species apparent.

13. Set aside field with abundant *Alopecurus pratense* and *Poa annua*. Occasional spear thistle and field speedwell and frequent black knapweed and greater plantain.

14. Small copse backing on to the disused railway cutting. Predominantly alder, elder and hazel to the north with hawthorn becoming more frequent to the south. The ground flora consists of abundant cow parsley, nettles and cleavers with frequent yellow archangel. Small patches of bluebell and red campion also exist.

15. A sheep's' carcass in field with over 12 ravens around it.

16. Odd gaps but with tall ruderal still forming corridor.

17. Pond almost totally overgrown.



Kineton



North-West

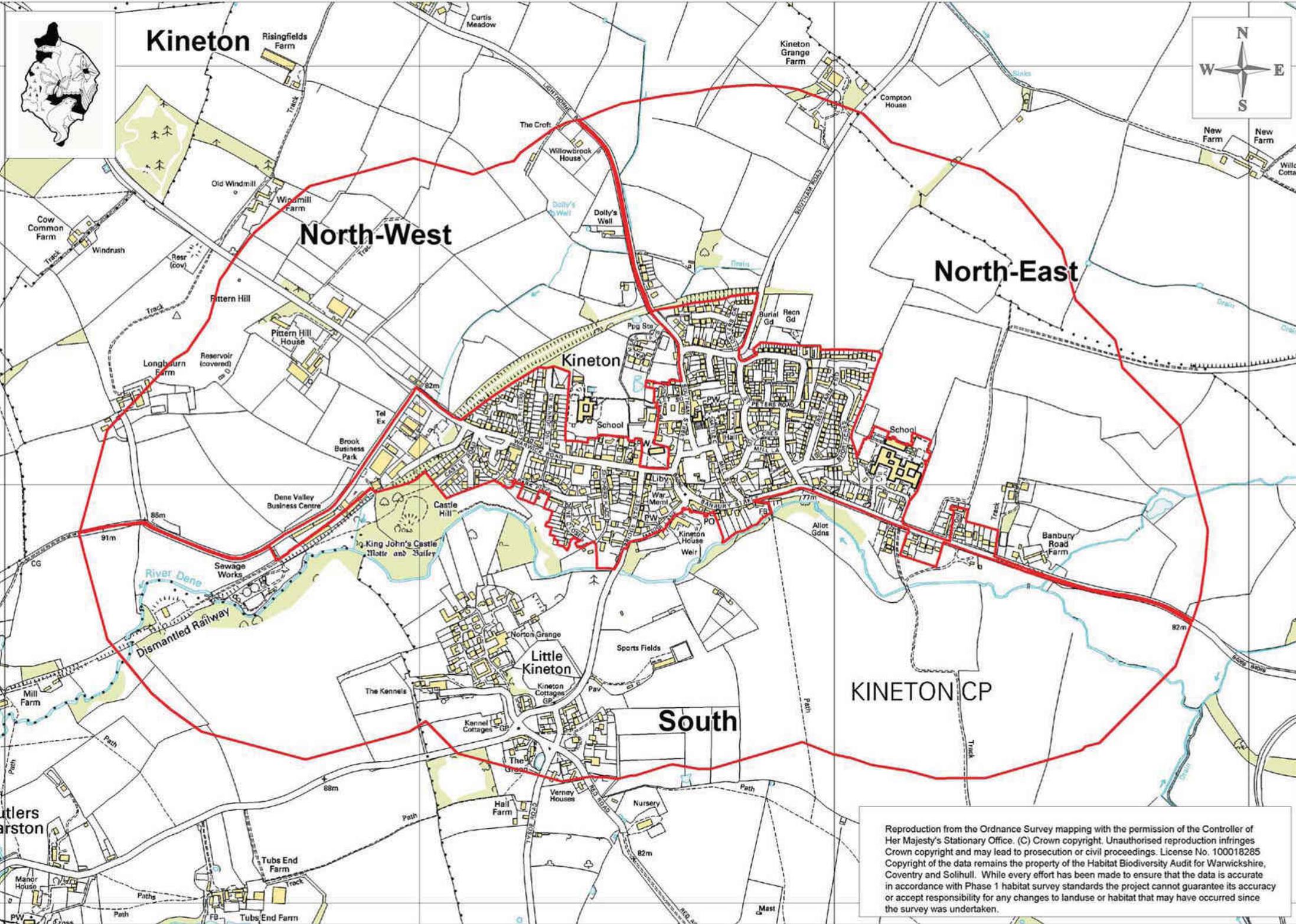
North-East

Kineton

South

KINETON CP

Little Kineton

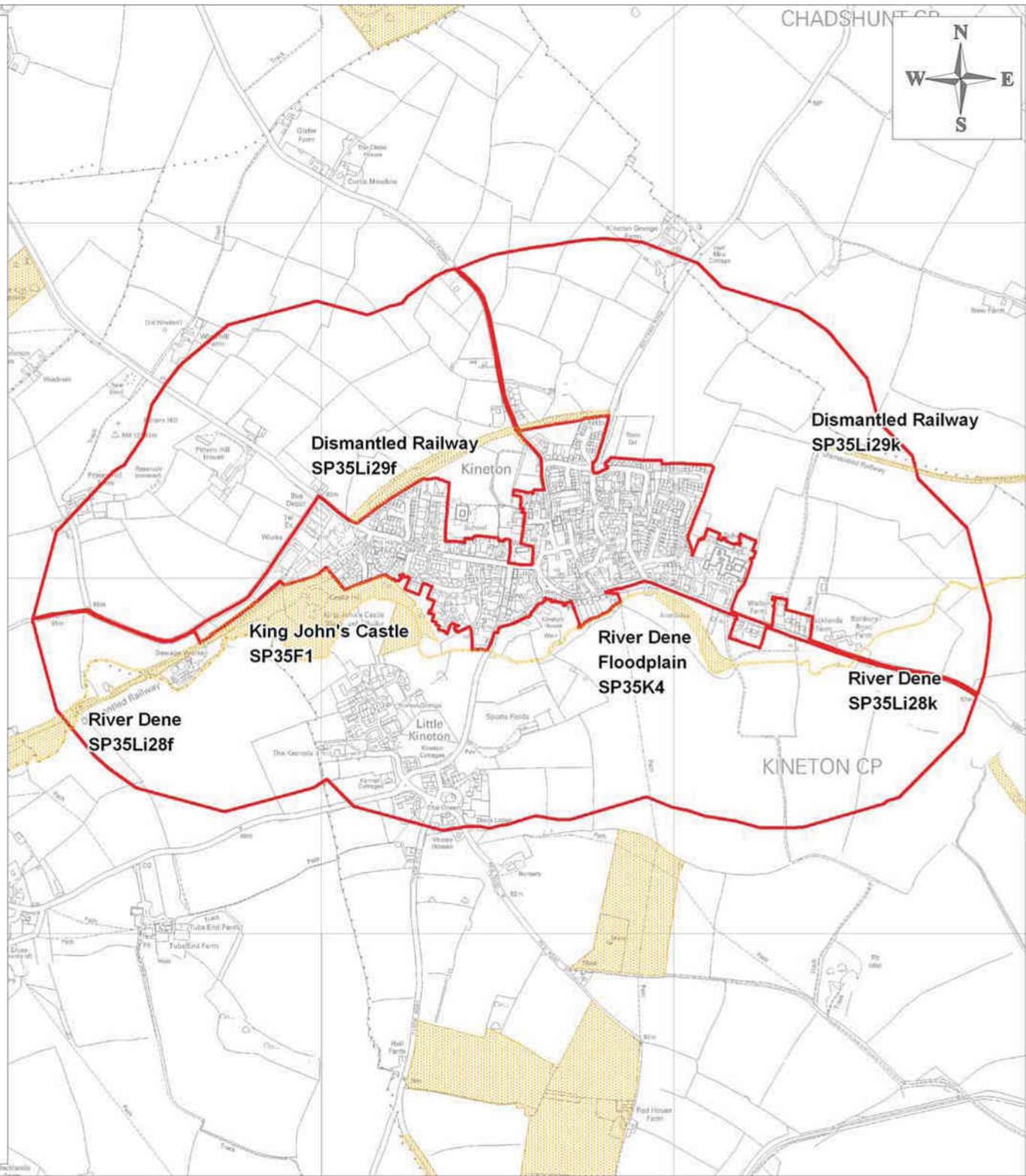


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Kineton Local Sites

-  Potential Local Wildlife Site (pLWS/SINC)
-  Local Wildlife Site (LWS/SINC)
-  Rejected potential Local Wildlife Site
-  Destroyed Local Wildlife Site
-  SSSI
-  RIGS
-  LNR



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Kineton - HBA



Phase I Habitat Survey

Habitat Types

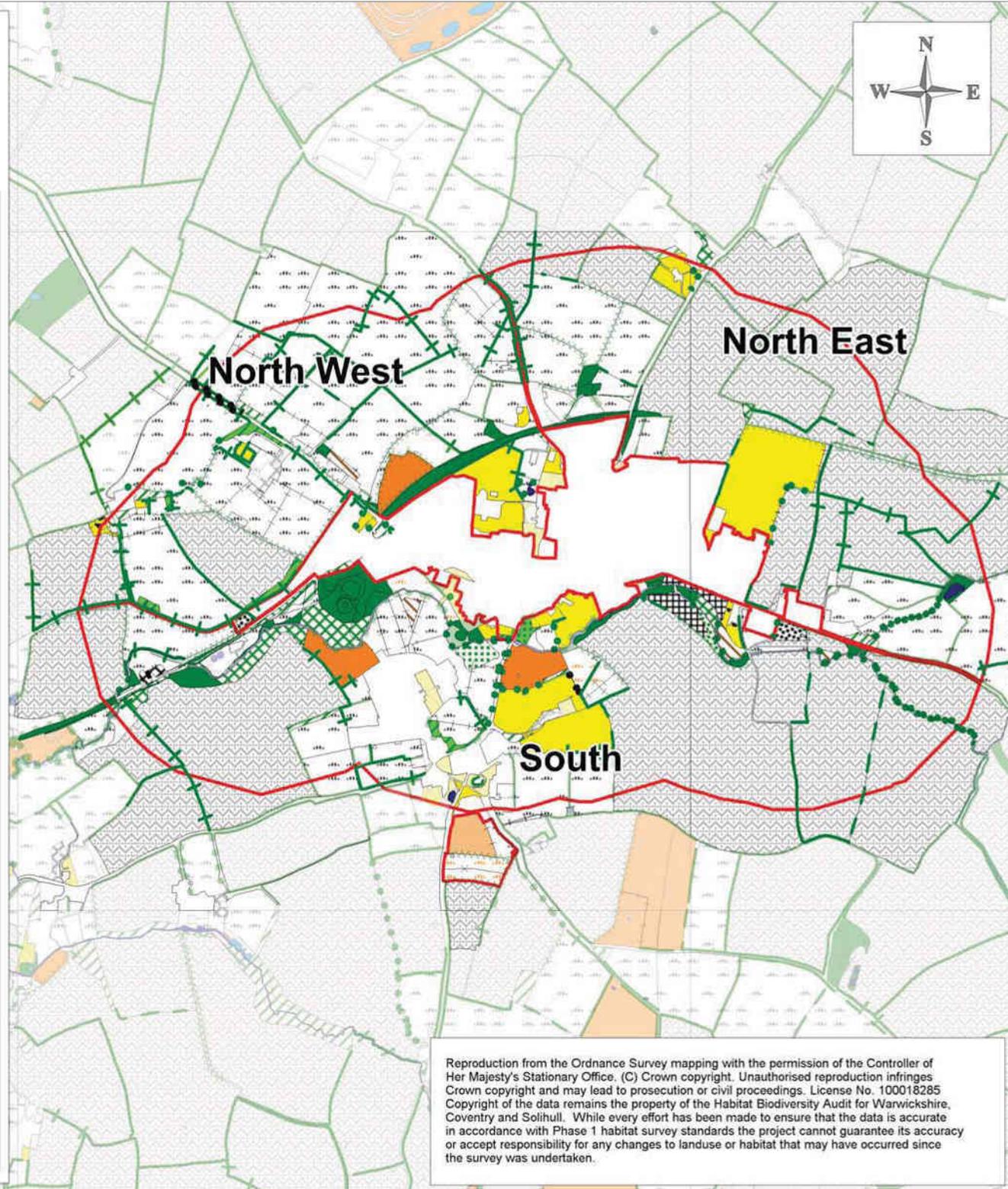
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Phase 1 Habitat Survey

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NB Data with a survey date before 2005 is displayed with muted tones



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Kineton - North-East

Area: 89.9 hectares



Phase I Habitat Survey

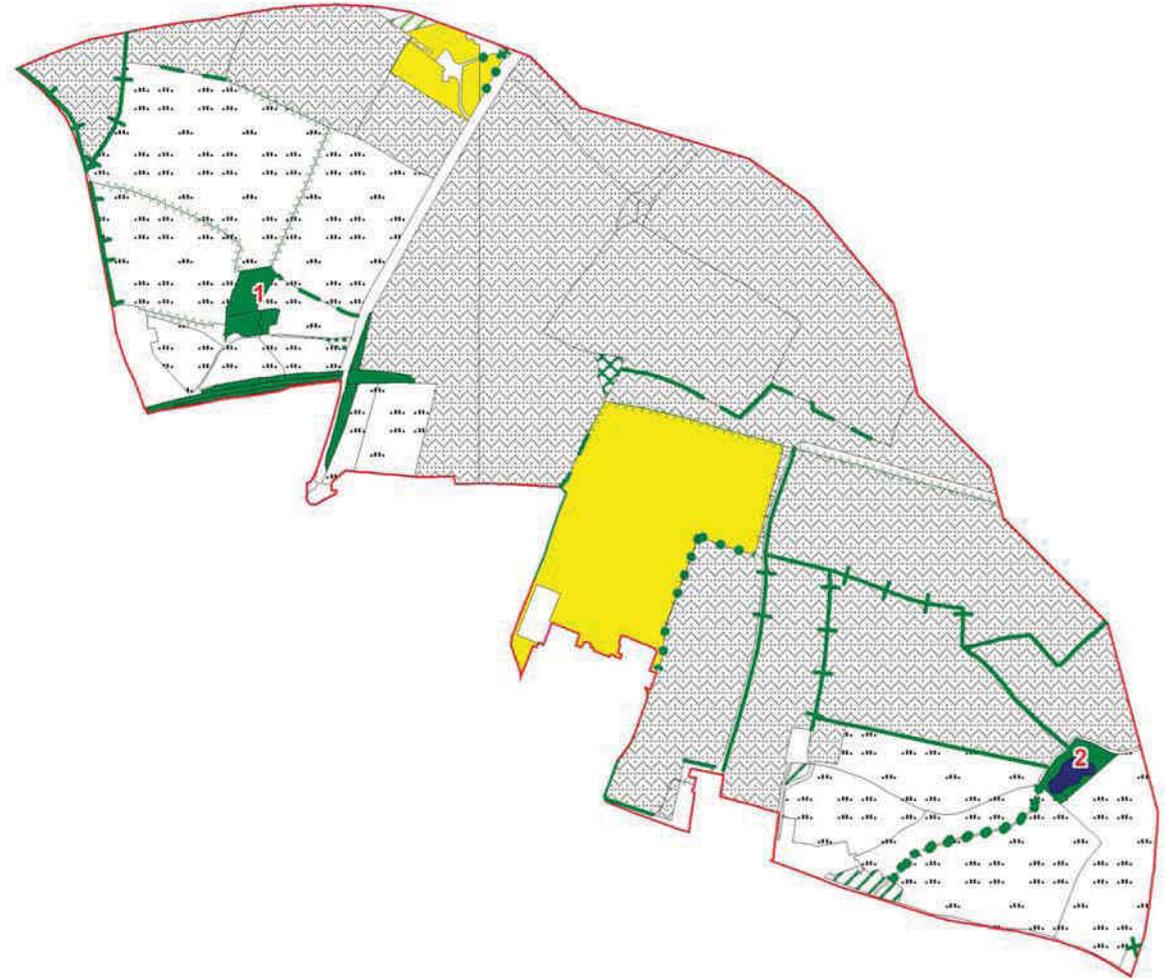
Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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**WARWICKSHIRE
BIOLOGICAL
RECORDS CENTRE**



**Kineton
North-East**

Species

 Buffer zone for otter, water vole or white-clawed crayfish

 Buffer zone for great crested newt, adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

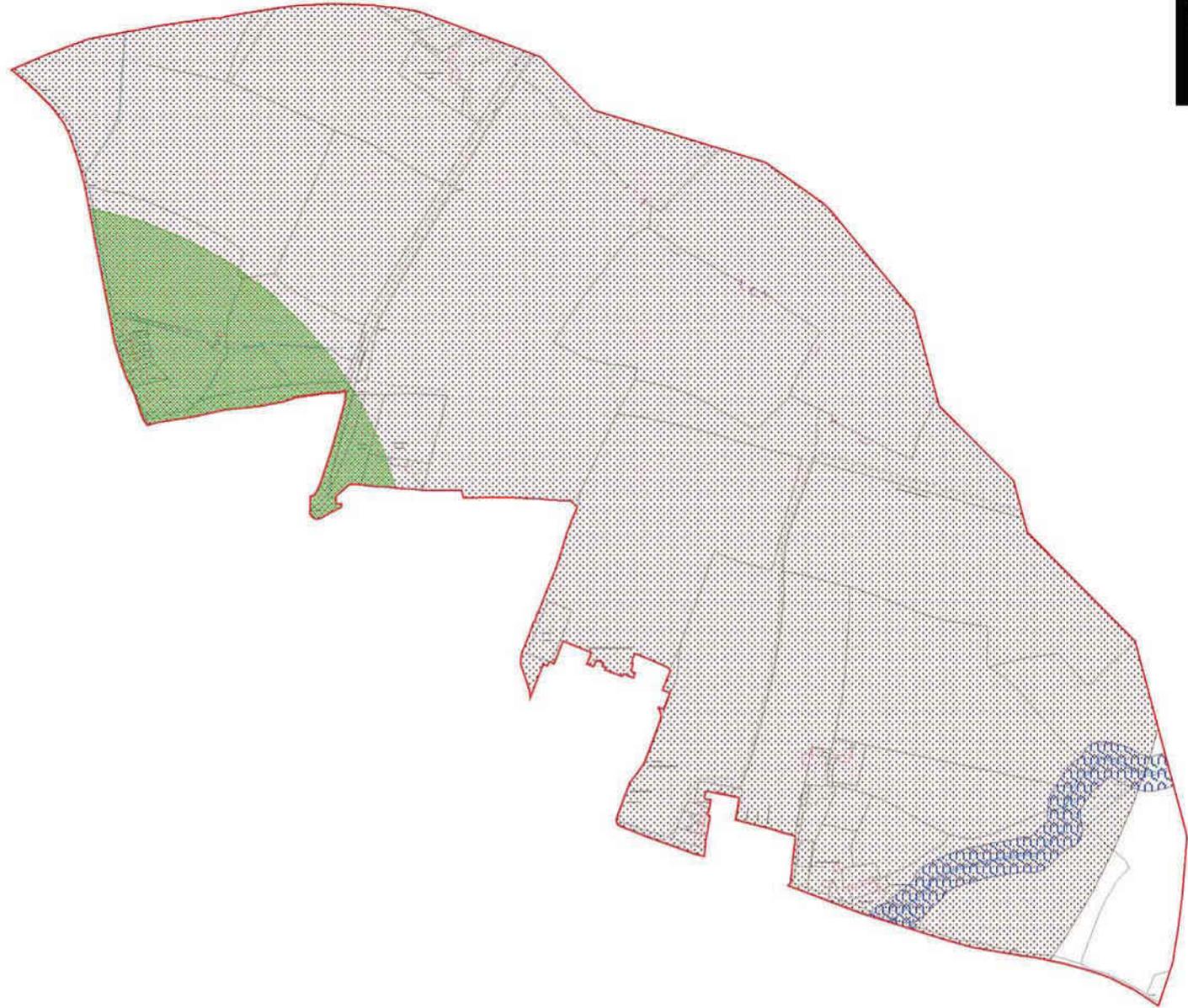
 Barn Owl

 BAP Butterfly

 Black poplar

 Veteran tree

 County rare plant



Warwickshire Biological Records Centre
Museum Field Services
The Butts
Warwick
CV34 4SS
Tel: (01926) 418060
Fax: (01926) 412975

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Kineton - South

Area: 133.8 hectares



Phase I Habitat Survey

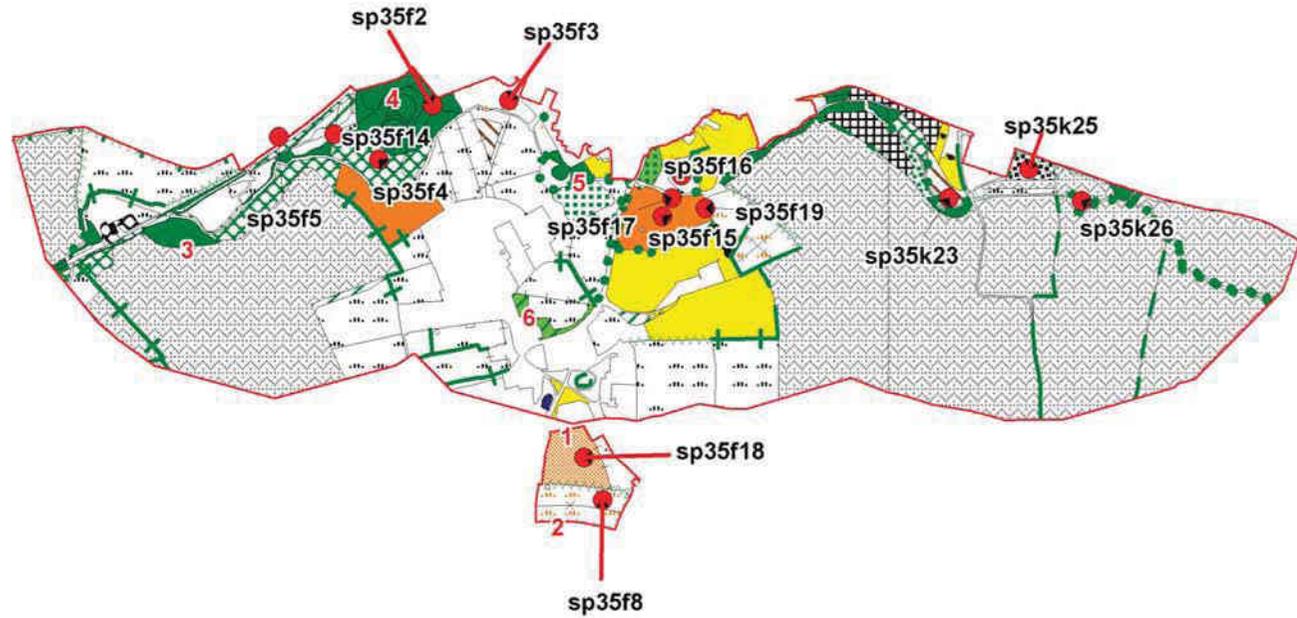
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Phase 1 Habitat Survey

Linear Features

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Kineton South

Species

 Buffer zone for otter, water vole
or white-clawed crayfish

 Buffer zone for great crested newt,
adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

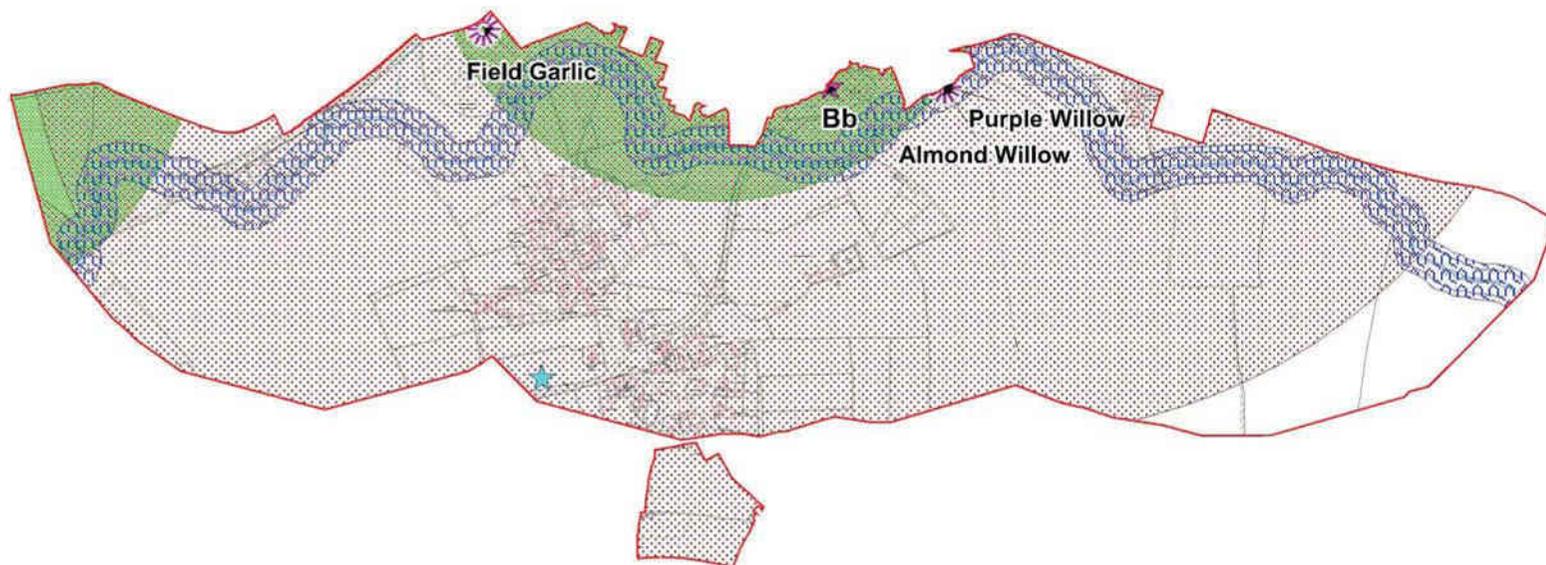
 Barn Owl

 BAP Butterfly

 Black poplar

 Veteran tree

 County rare plant



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Kineton - North-West

Area: 79.7 hectares



Phase I Habitat Survey

Habitat Types

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	A122 (Coniferous plantation)		F1 (Swamp)
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	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
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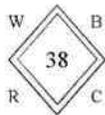
Phase 1 Habitat Survey

Linear Features

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Kineton North-West

Species

 Buffer zone for otter, water vole
or white-clawed crayfish

 Buffer zone for great crested newt,
adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

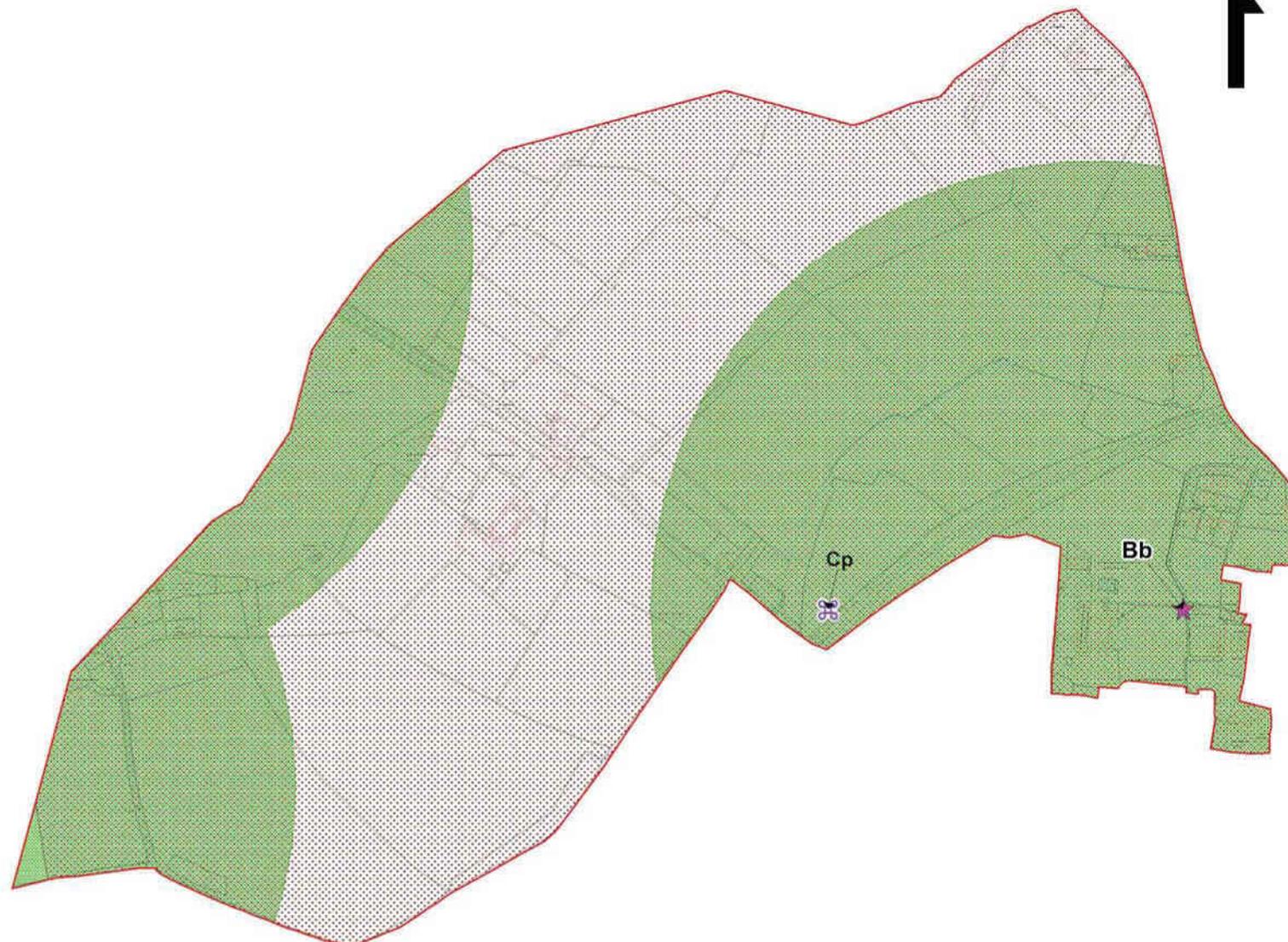
 Barn Owl

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Key for Reptile/Amphibian species

Tv	<i>Triturus vulgaris</i> (AKA <i>Lissotriton vulgaris</i>)	Smooth Newt
Rt	<i>Rana temporaria</i>	Common Frog
Bb	<i>Bufo bufo</i>	Common Toad
Lv	<i>Lacerta vivipara</i> (AKA <i>Zootoca vivipara</i>)	Common Lizard

Key for Red Listed and UK BAP Butterfly species

Please note that Small Blue and Dingy Skipper are also LBAP species

Cm	<i>Cupido minimus</i>	Small Blue
Cp	<i>Coenonympha pamphilus</i>	Small Heath
Et	<i>Erynnis tages</i>	Dingy Skipper
Lc	<i>Limenitis camilla</i>	White Admiral
Lm	<i>Lasiommata megera</i>	Wall
Pm	<i>Pyrgus malvae</i>	Grizzled Skipper
Swa	<i>Satyrium w-album</i>	White-letter Hairstreak

Appendix of Target Notes relating to Phase 1 Habitat Survey Maps (in alpha-numeric order)

Kineton Target Notes

SP35f

1.) The area consists of a disused railway line and embankment. The railway cutting is dominated by tall ruderals and perennial forbs; the fringing embankment is mainly composed of scrub dominated by hawthorn and sycamore with a scattering of young ash; elder and blackthorn. The area where the track used to lie has an abundance of nettles and black bindweed; with occasional rosebay willowherb; teasel; ragwort; and curled dock.

2.) This area is dominated by dense scrub; the dominant species is hawthorn; however; there are also some occasional ash and sycamore. Towards the stream apple trees become the more dominant species and the hawthorn is restricted to the understorey. The ground flora is dominated by brambles; nettles and rosebay willowherb. *Brachypodium sylvaticum* dominates the outer fringes where there is also a scattering of meadowsweet and meadow cranesbill.

3.) This area has a profusion of ruderals and perennial forbs. Nettles; creeping thistle; *Arrhenatherum elatius* and *Deschampsia cespitosa* are the more dominant species within the area. There are also frequent examples of hawthorn; cleavers; hedge bindweed and black Knapweed with an occasional scattering of *Phleum pratense*.

4.) This area is characterised by a small running freshwater stream; the stream is flanked by large willow trees which seem to be of a very old age. The area between the scrub and willow trees has an abundance of tall ruderals and perennial forbs; including rosebay willowherb; creeping thistle; nettles; meadow cranesbill; *Agropyron repens*; and *Phleum pratense*. The site also contains occasional goat willow; alder; burdock; ribwort plantain; chickweed; white clover; hard rush; St John's wort; red campion; black knapweed; hock trefoil; Japanese larch; sycamore and blackthorn.

5.) This area of grassland is of a poor semi-improved nature and is in an early successional stage. *Agropyron repens* and *Phleum pratense* are the dominant grasses; curled dock; white clover and St John's wort are also well represented and there is an occasional presence of rosebay willowherb; burdock and creeping thistle. Visited on 16/07/09 by MF. Area now developed as business units

6.) This area is dominated by scrub; hawthorn is extremely prolific although there is an occasional presence of ash and elder. There is an area of open ground where the plant species composition is quite diverse; it is dominated mainly by ruderals and perennial forbs including *Arrhenatherum elatius*; *Phleum pratense*; Hedge; field; and black bindweed; rosebay willowherb; white dead-nettle; creeping thistle; ragwort; yarrow; bramble; curled dock; ladies bedstraw; dandelion and burdock.

7.) This area consists of a small ash plantation; the site borders an old disused railway cutting so there is also quite an abundance of hawthorn; bramble; ground ivy and nettles.

8.) This area is poor semi-improved grassland; the site is dominated by *Lolium perenne*; *Arrhenatherum elatius* and *Dactylis glomerata* and has frequent ribwort plantain and creeping thistle. There is an occasional presence of hedge bindweed and burdock and also a scattering of dock and nettles which seem to be growing in distinct patches. Visited on 14/7/9 by MF. Old orchard. Not as interesting as field of

sp35f18 but with some characteristics of unimproved grassland. With agrimony, bird's-foot-trefoil, cowslip.

9.) This area consist of poor semi-improved grassland; there is an abundance of *Arrhenatherum elatius*; *Cynosurus cristatus*; *Hordeum murinum*; *Phleum pratense* and *Festuca rubra*. Creeping thistle is also fairly abundant and there is an occasional presence of pignut; red clover; common catsear and ladies bedstraw.

There are many ash trees; these are restricted to the vicinity of a stream which runs through the site; there are also a number of hawthorn trees along the stream embankment and also along the fenced edges to the site.

10.) This area consist of poor semi-improved grassland; there is an abundance of *Arrhenatherum elatius*; *Cynosurus cristatus*; *Hordeum murinum*; *Phleum pratense* and *Festuca rubra*. Creeping thistle is also fairly abundant and there is an occasional presence of pignut; red clover; common catsear and ladies bedstraw.

There are many ash trees; these are restricted to the vicinity of a stream which runs through the site; there are also a number of hawthorn trees along the stream embankment and also along the fenced edges to the site. The land is rotationally grazed by sheep and a full analysis of the site was not possible as access was not granted.

11.) This area consists of semi-natural woodland ; the dominant tree species are ash and oak; however; there is an occasional presence of horse chestnut.

The understorey is characterised by coppiced hazel; hawthorn and elm. The canopy is relatively open and allows an abundance of light through to the ground flora and there is therefore a good coverage of vegetation on the ground of the woodland. The ground flora has an abundance of ground ivy; nettles; herb

Robert and bramble and also a few examples of violet and wood avens. There is an abundance of dead wood littering the floor of the wood; this would provide a diversity of habitats for various insect species and would also support a range of fungi species; especially in the autumn. The site also contains a pond which has been completely engulfed by *Glyceria* spp. and can therefore now be designated as a swamp. Around the fringes of the swamp there is an abundance of nettles; water mint; bramble and hawthorn; and also a few examples of gypsy wort and *Deschampsia cespitosa* . The wood is also inhabited by badgers and provides a good haven for insectivorous bird species.

12.) Ungrazed meadow; containing abundant *Cynosurus cristatus* and occasional *Dactylis glomerata*; *Lolium perenne*; *Hordeum secalinum* and *Arrhenatherum elatius*. Meadow buttercup is frequent; while meadow vetchling; red clover; common vetch; bird's-foot-trefoil and self heal are locally distributed.

13.) Visited on 16/7/9 by MF. Remnants of unimproved grassland on slope facing south-west. Lady's bedstraw, daisy, bird's-foot-trefoil, gorse, creeping cinquefoil, red clover, salad burnet, black meddick, herb Robert.

14.) Visited on 16/7/9 by MF. Footpath through well managed ride, crosses stream that flows north-east to south-west down to River Dene. Meadow crane's-bill, great willowherb, creeping buttercup, meadowsweet, hedge bindweed, creeping cinquefoil, creeping thistle, burdock, common nettle, black broom.

15.) Visited on 14/7/9 by MF. Lady's bedstraw (A), Yarrow, lesser knapweed, bird's-foot-trefoil, common mouse-ear, red clover, white clover, meadow vetchling, Most of the interesting forbs are away from the encroaching patches of nettle, creeping thistle, field bindweed on the slopes of the west and the north sides of the field. However, yarrow, lady's bedstraw, , cowslip, meadow vetchling, bird's-foot-trefoil, pignut, great burnet at north-east of site in a 50 m square, meadow buttercup.

16.) Visited on 14/7/9 by MF. Sheep grazed. common blue butterfly.

17.) Visited on 14/7/9 by MF. Area near weir (not marked on OS map) has characteristics of wet meadow. Dominated by bulrush, common reed, creeping bent, soft rush, meadow vetchling, creeping buttercup, great willowherb, crack willow, meadowsweet, hard rush, soft rush, smooth-stalked sedge, occasional square-stalked St John's-wort, creeping thistle.

18.) Visited on 14/7/9 by MF. Ridge and furrow hay meadow, unimproved grassland, registered for equestrian grazing and cut once annually for hay. South side most interesting. With meadow vetchling, meadow buttercup, yarrow, yellow rattle, red clover.

19.) Visited on 14/7/9 by MF. 50 m square area of unimproved grassland (B21) within field of semi-improved grassland. Contains yarrow, lady's bedstraw, cowslip, meadow buttercup, meadow vetchling, pignut, bird's-foot-trefoil, great burnet. Remainder of field contains abundant lady's bedstraw, yarrow, lesser knapweed, common mouse-ear, red clover, nettles and creeping thistle encroaching on site.

SP35k

1. Generally dry ditch with steep banks supporting a range of species, including *Juncus articulatus*, *Carex flacca*, bulbous and meadow buttercup, black knapweed, black medick, birds-foot trefoil, hogweed, pepper saxifrage, cowslips and, rarely, fairy flax.

2. Semi-improved hay meadow with abundant *Bromus mollis*. *Anthoxanthum odoratum* is locally frequent, as is bulbous buttercup and lesser knapweed. Lady's bedstraw, meadow buttercup, cowslips, *Alopecurus pratensis* and *Holcus lanatus* also occur. The area has had some improvement with the possible removal of a hedge (now shown by a band of cow parsley) and contains more sorrel, *Lolium* sp., common mouse ear and dandelion than might otherwise be expected. The brook that used to flow through the meadow has been redirected, but the site retains wetland features such as *Juncus effusus*, *Juncus inflexus*, cuckoo flower and *Deschampsia caespitosa*. Beyond the line of the brook, the vegetation becomes much richer with abundant lady's bedstraw and black knapweed, frequent great burnet, hogweed, bulbous buttercup, *Anthoxanthum odoratum* and some *Luzula campestris* and bird's-foot trefoil. There are also patches of meadow vetchling and ox-eye daisy.

3. Hay meadow, varying in species diversity. *Anthoxanthum odoratum* dominates, with rare *Dactylis glomerata* and *Alopecurus pratensis*, which becomes more frequent in the north east. Bulbous buttercup is frequent and common sorrel, black knapweed and hogweed are occasional. A brook has been redirected from the meadow, but the site is still fairly species-rich. Present here and in the area behind are *Carex flacca*, lady's bedstraw, yarrow, ox-eye daisy, bird's-foot-trefoil and cowslips. Black knapweed is more abundant here than in the rest of the meadow. Areas of indistinct ridge and furrow and bands of cow parsley suggest that this area may once have consisted of several smaller fields. A small heath butterfly and a hare were seen.

4. Small stream, redirected from adjoining meadows, now with steep-sided banks. These are colonised with tall ruderals such as cow parsley, hemlock, great willowherb, nettles and hogweed. Fool's watercress, *Phalaris arundinacea* and *Typha latifolia* occur and willows are present at the top of the banks.

5. The Plantation: oak, ash and elm woodland with a few Scots pine. There is little understorey, but there is some ash underplanting.

Dogwood and spindle occur. The ground flora contains woodland and meadow species, including abundant cleavers, frequent cowslip and rarer black bryony, common spotted orchid, hedge woundwort, perforate St John's wort, meadow buttercup, wood dock, *Carex otrubae*, field forget-me-not, nettles and teasel. There is also some young hawthorn and blackthorn. A speckled wood butterfly was seen.

6. The Plantation: immature oak creates a sparse canopy, allowing dense, knee-high blackthorn and hawthorn scrub. The ground flora is still diverse although cleavers are abundant. Other species include meadow vetchling, black knapweed, forget-me-not, cowslips, *Carex otrubae*, *Poa trivialis*, *Bromus sterilis*, spindle, wood avens and perforate St John's wort. To the west, elm (dead and alive) becomes more of a feature, as does burdock, *Juncus inflexus*, *Bromus ramosus*, *Festuca gigantea*, *Deschampsia caespitosa*, *Brachypodium sylvaticum*, meadowsweet, black bryony, cow parsley, *Equisetum arvense* and meadow crane'sbill. The hedges contain much maple and hawthorn and have been laid in the past, although are now defunct. There is a stream at the western edge of the wood with mature crack willow, hawthorn and maple on its banks. There is very little aquatic vegetation, but it is very shaded. The wood is crossed by many animal tracks and badgers have been reported. Several butterflies were present including speckled woods. A young tawny owl was seen.

7. The Plantation: the sparse oak canopy has led to a very dense mature understorey which is predominantly blackthorn, but hawthorn also occurs. There is little ground flora in the west and here are bare patches of earth. Along the paths and where the scrub is less dense there are *Alopecurus pratensis*, cowslip, common spotted orchid, cleavers, nettles, wood avens, violet spp., three-veined sandwort and blackthorn regeneration. In the east there is also cow parsley and black knapweed. There is some fallen dead wood. Many tracks cross the area and it supports more birds than other parts of the wood.

8. Small area of semi-improved grassland with scattered hawthorn scrub. There is a range of grasses and it is forb-rich. Species include ox-eye daisy, cowslip, bird's-foot-trefoil, black knapweed, teasel, black medick and a vetch sp. Ten-plus blue butterflies and a large white were seen.

9. Small hill covering old ammunition bunkers and supporting many species of plant. Some of these include *Festuca pratensis*, *Lolium perenne*, *Bromus* spp., *Deschampsia caespitosa*, *Alopecurus geniculatus*, melilot sp, common vetch, field bindweed, meadow vetchling, teasel, colt's foot, curled dock, cow parsley, black medick and cut-leaved crane'sbill. Adjacent to the railway were field pepperwort, ox-eye daisy, common fumitory, fairy flax, yellow rattle, bird's-foot-trefoil and agrimony. Hawthorn scrub occurs in the area next to the pond. Several butterflies were seen including grizzled skipper, marbled white and blues.

10. Large area taken out of cultivation. At present, *Bromus sterilis* dominates, with ribwort plantain and wintercress also present. A meadow pipit was seen.

11. Large pond apparently drying out. New Zealand pigmy-weed is colonising the surface of the water and there are large areas of *Typha latifolia* swamp. Willows grow in the middle of the pool and occasionally at its edges. Along the shoreline is gipsywort and *Eleocharis palustris*. The north side of the pond has been planted with dogwood and to the south is an area of grassland that appears to be drying out. Present here are abundant *Deschampsia caespitosa* and frequent *Juncus inflexus*, *Carex flacca*, common spotted orchid, wild carrot, bird's-foot-trefoil, teasel and hoary ragwort. Willow have been planted on the south-west edge next to the railway line.

Butterflies seen include dingy skipper and common blues and lapwing and coot were also present. Fallow tracks were visible near the railway line.

12. Ungrazed field which contains a variety of grasses, including *Deschampsia caespitosa*, *Lolium* sp., *Dactylis glomerata* and *Holcus lanatus*. Also present are black knapweed, cow parsley, creeping buttercup, ox-eye daisy (in the western part), hogweed and bush vetch.

13. Small pond almost entirely covered with blanket weed. The eastern area consists of abundant watercress and occasional teasel and *Phalaris arundinacea*. Willows grow on three banks, along with hawthorn and maple. Willow saplings are present between the water and the area of ruderals. The eastern bank contains nettles, cleavers and hogweed. To the north is a medium-aged plantation of ash, oak, whitebeam, sycamore, beech and elder.

14. Hay meadow dominated by *Lolium perenne*, but with common poppies, cow parsley and ox-eye daisies. at the edges. Several skylarks present.

15. Large semi-improved with rather indistinct ridge and furrow.

No one grass dominates, but *Arrhenatherum elatius* is abundant.

Several other grasses occur and include *Bromus mollis*, *Festuca rubra*, *Dactylis glomerata*, *Holcus lanatus*, *Phleum pratense*, *Anthoxanthum odoratum* and *Cynosurus cristatus*. Ox-eye daisy, cowslips, black medick, bee orchids, creeping thistle, meadow vetchling, fairy flax, yellow rattle and common vetch are locally present, while white clover, bulbous and meadow buttercup, hoary ragwort, sorrel, field bindweed and cut-leaved crane'sbill are more widely distributed.

Black knapweed is rare. Hogweed, field rose and hawthorn are beginning to colonise the meadow and may pose a threat in the near future. Skylarks were present, as were many Lepidoptera including common blues, a small heath and a cinnabar moth. The owner reports that pyramidal orchids, corn cockle and hares (including young this year) are also present.

16. Dry ditch with frequent meadowsweet and *Juncus inflexus* and occasional yellow flag. *Phalaris arundinacea* is abundant.

17. Field reportedly not ploughed for two years and being returned to permanent pasture. *Bromus sterilis* dominates the south-east corner, with *Anthoxanthum odoratum* dominating the rest. Forbs are still infrequent and include smooth sow thistle, creeping thistle and field bindweed.

18. Semi-improved meadow over ridge and furrow. *Holcus lanatus*, *Dactylis glomerata* and *Arrhenatherum elatius* are locally dominant, while *Bromus mollis* is locally frequent and *Cynosurus cristatus* is rare. Smooth tare, black medick, common vetch, cowslips and ox-eye daisy are locally frequent, while red and white clover, dandelion and meadow buttercup are more widely distributed. Agrimony and salad burnet are rare. Sainfoin is reported. Skylarks were present, as were grizzled skipper, common blue, small heath and meadow brown butterflies.

19. Pond largely covered with broad-leaved pondweed. A few individual plants of common water plantain and watercress occur in the water. *Juncus inflexus* and yellow flag are present at the water's edge. The bank to the north is colonised by common vetch, *Carex otrubae* and *Carex flacca*, silverweed, rosebay willowherb and meadowsweet. There is also very young blackthorn and hawthorn scrub and a few cowslips. The southern half of the pond has been dug out in recent years and the banks here still have some bare patches, although *Holcus lanatus*, *Festuca rubra*, meadow vetchling and meadow buttercup occur. A little brooklime is present in the water. Two willow stumps are present on the south-eastern bank, both beginning to re-sprout. Newts were reported to be in pond, although only goldfish (introduced by

the owner) and tadpoles were visible! Many dragonflies were present, including broad-bodied chasers and damselflies.

20. Meadow, recently mown and rather coarser than surrounding fields. *Holcus lanatus* is the most common grass, but *Festuca rubra* and *Anthoxanthum odoratum* are also present. *Deschampsia caespitosa* is rare. Forbs include meadow buttercup, dove's foot crane'sbill, black knapweed, bugle and common vetch.

21. Mature ash woodland with occasional willows (probably crack willow) present. There is a very sparse understorey of elder and hawthorn, but snowberry is locally very dense. The ground flora is dominated by cleavers, but also contains frequent cow parsley and occasional nettles. Many animal tracks have been forged through allowing *Lolium perenne*, *Bromus sterilis* and *Festuca* sp. to survive. Ground ivy and garlic mustard are rare. An area has been fenced off, presumably for pheasant rearing, but appears to display similar features to the rest of the copse. Several small birds were present including wrens, as were many moths and other invertebrates. The area is edged by a tall hedge of blackthorn, hawthorn and elder, with wood forget-me-not, white dead nettle and rose sp.. There also appears to be the remains of a bank and ditch boundary.

22. Broad hedge of elder, hawthorn, bramble field rose, blackthorn and ash. Beneath this is a diversity of species including *Arrhenatherum elatius*, *Dactylis glomerata*, black knapweed, cowslips, perforate St John's-wort, common vetch, meadow vetchling, cow parsley and hogweed. Several large holes are present in one area, perhaps used by fox or badger and many song birds were present including yellowhammer. Red-legged partridge were also seen.

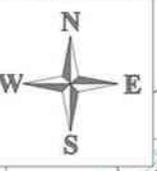
23. Damp, ungrazed meadow dominated by coarse grasses such as *Arrhenatherum elatius*, *Dactylis glomerata* and *Alopecurus pratensis*. Cow parsley and hogweed are abundant and ground ivy is occasional where the grass is shorter. Towards the northern end of the field, wintercress is occasional and meadow crane'sbill and meadowsweet become frequent to abundant. Visited on 14/07/09 by MF. Site now dominated by meadowsweet, great willowherb, common nettle, hedge bindweed, curled dock, burdock, hogweed, and in the more central area of the site, meadow crane's-bill.

24. Ungrazed meadow, containing abundant *Cynosurus cristatus* and occasional *Dactylis glomerata*, *Lolium perenne*, *Hordeum secalinum* and *Arrhenatherum elatius*. Meadow buttercup is frequent, while meadow vetchling, red clover, common vetch, bird's-foot-trefoil and self-heal are locally distributed.

25. Visited on 14/07/09 by MF. Area appears to be used for farm waste (soil, wood, rubble, tyres) and regularly gets disturbed. Forbs: Oxford ragwort, black meddick, greater plantain, ribwort plantain, white clover, hemlock, curled dock, burdock, great willowherb, common vetch, creeping cinquefoil, creeping thistle, scentless mayweed, creeping buttercup, bramble, mugwort, herb Robert, spear thistle, bristly ox-tongue, common nettle, smooth sow-thistle, black broom, scentless mayweed, self-heal, red clover, (pale?) lady's-mantle.

26. Visited on 14/07/09 by MF. Area of tall grasses and forbs near stream bank. Abundant great willowherb. teasel, cleavers, bristly ox-tongue, field horse-tail, burdock, grasses. Butterflies: green-veined white, ringlet, small white, gatekeeper.

Shipston-on-Stour



North

West

East

SHIPSTON ON STOUR CP

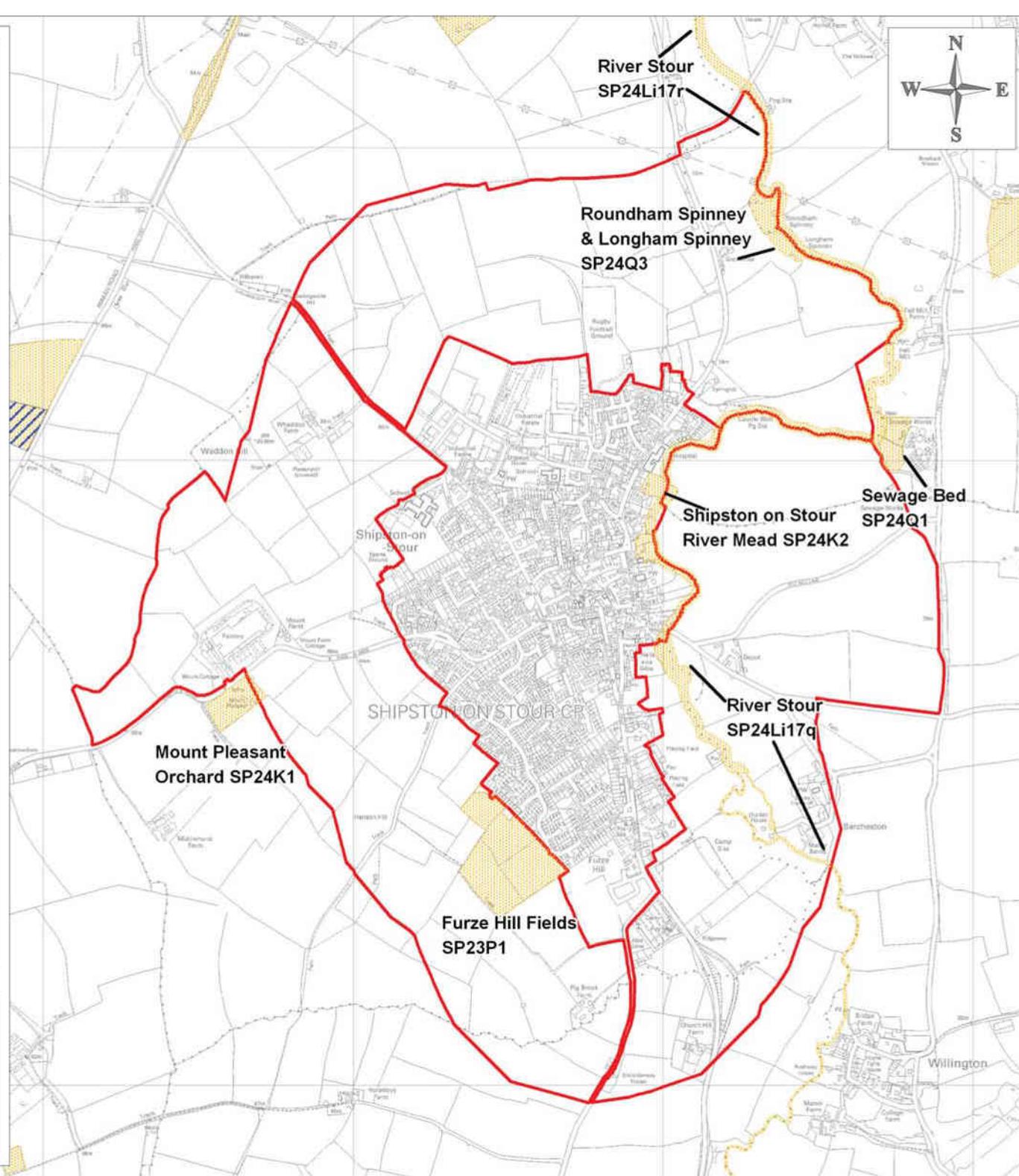
BARCHESTON CP

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Shipston-on-Stour Local Sites

-  Potential Local Wildlife Site (pLWS/SINC)
-  Local Wildlife Site (LWS/SINC)
-  Rejected potential Local Wildlife Site
-  Destroyed Local Wildlife Site
-  SSSI
-  RIGS
-  LNR



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Shipston on Stour - HBA

Phase I Habitat Survey

Habitat Types

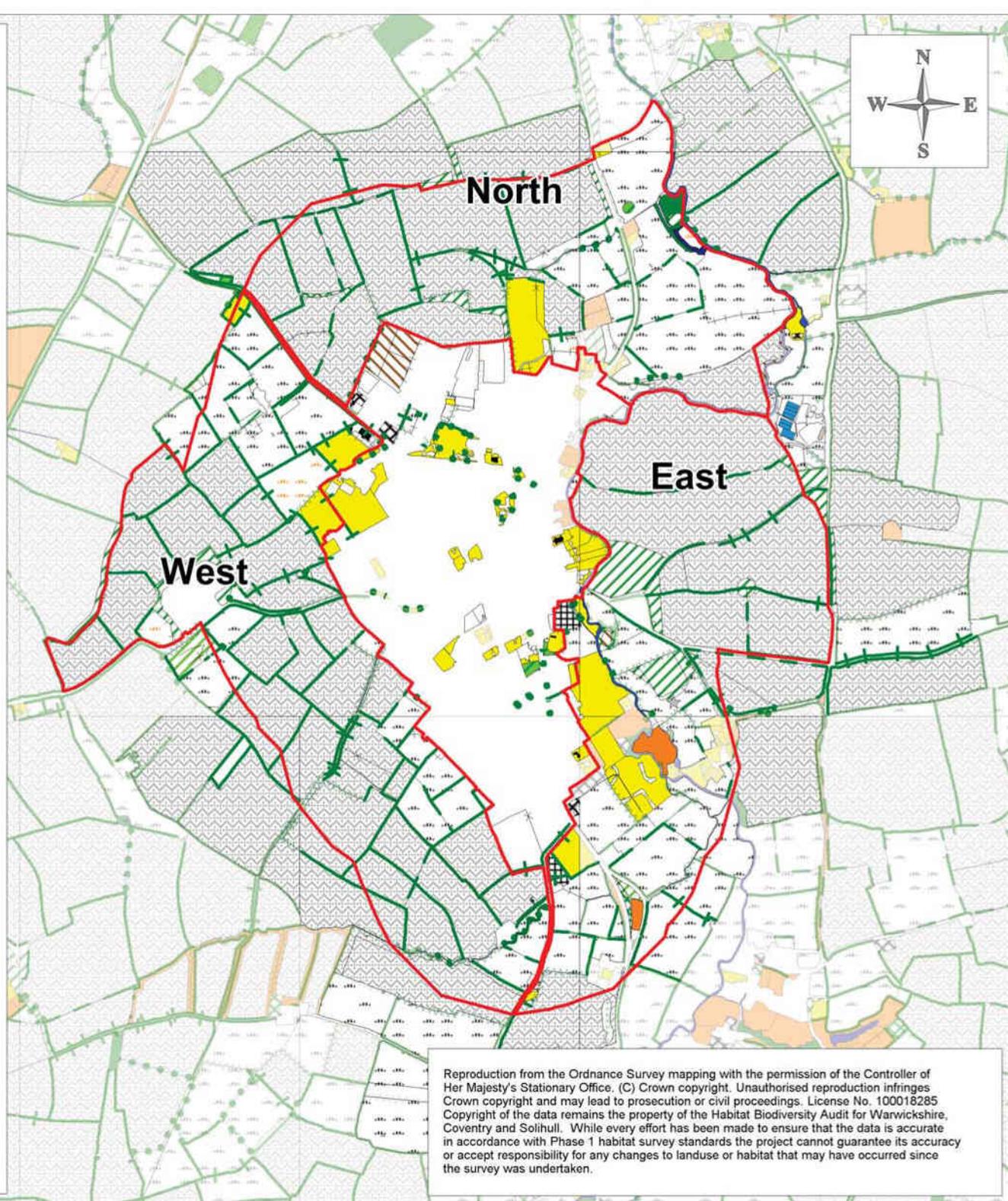
	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		

NB Data with a survey date before 2005 is displayed with muted tones



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Shipston-on-Stour North

Area: 115.8 hectares



Phase I Habitat Survey

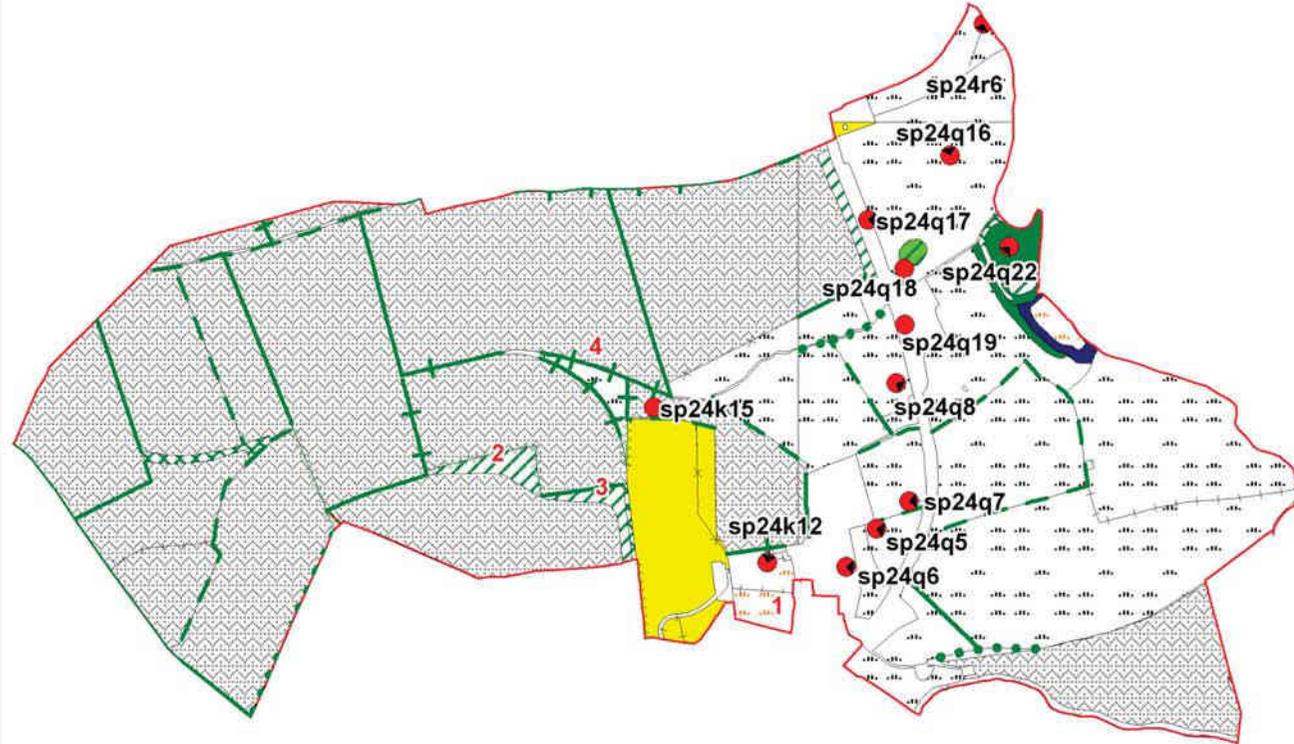
Habitat Types

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	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
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	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
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	A5 (Orchard (commercial))		J11 (Arable)
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	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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Shipston on Stour North

Species

 Buffer zone for otter, water vole
or white-clawed crayfish

 Buffer zone for great crested newt,
adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

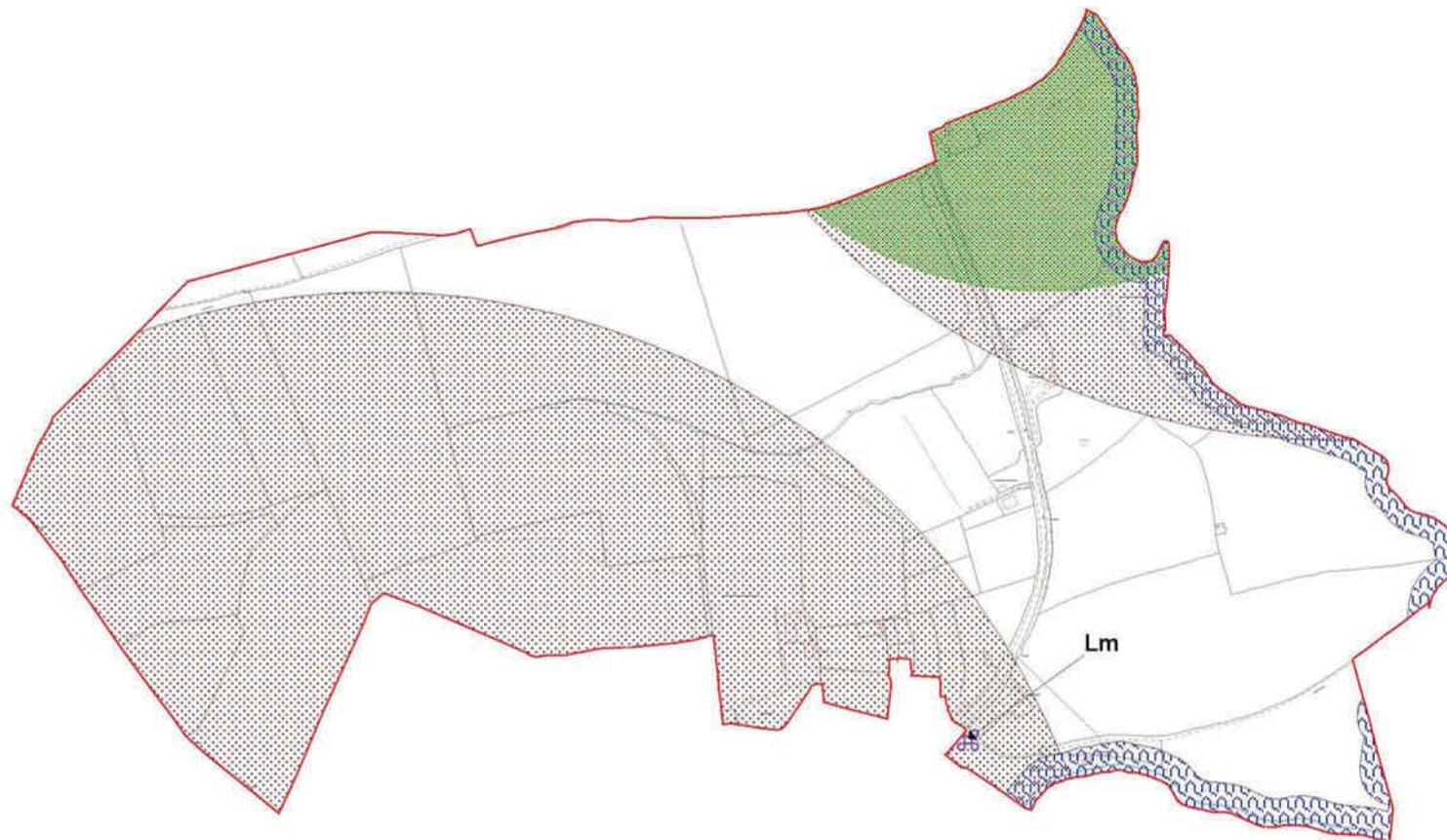
 Barn Owl

 BAP Butterfly

 Black poplar

 Veteran tree

 County rare plant



Warwickshire Biological Records Centre
Museum Field Services
The Butts
Warwick
CV34 4SS
Tel: (01926) 418060
Fax: (01926) 412975

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Shipston-on-Stour East

Area: 133.1 hectares



Phase I Habitat Survey

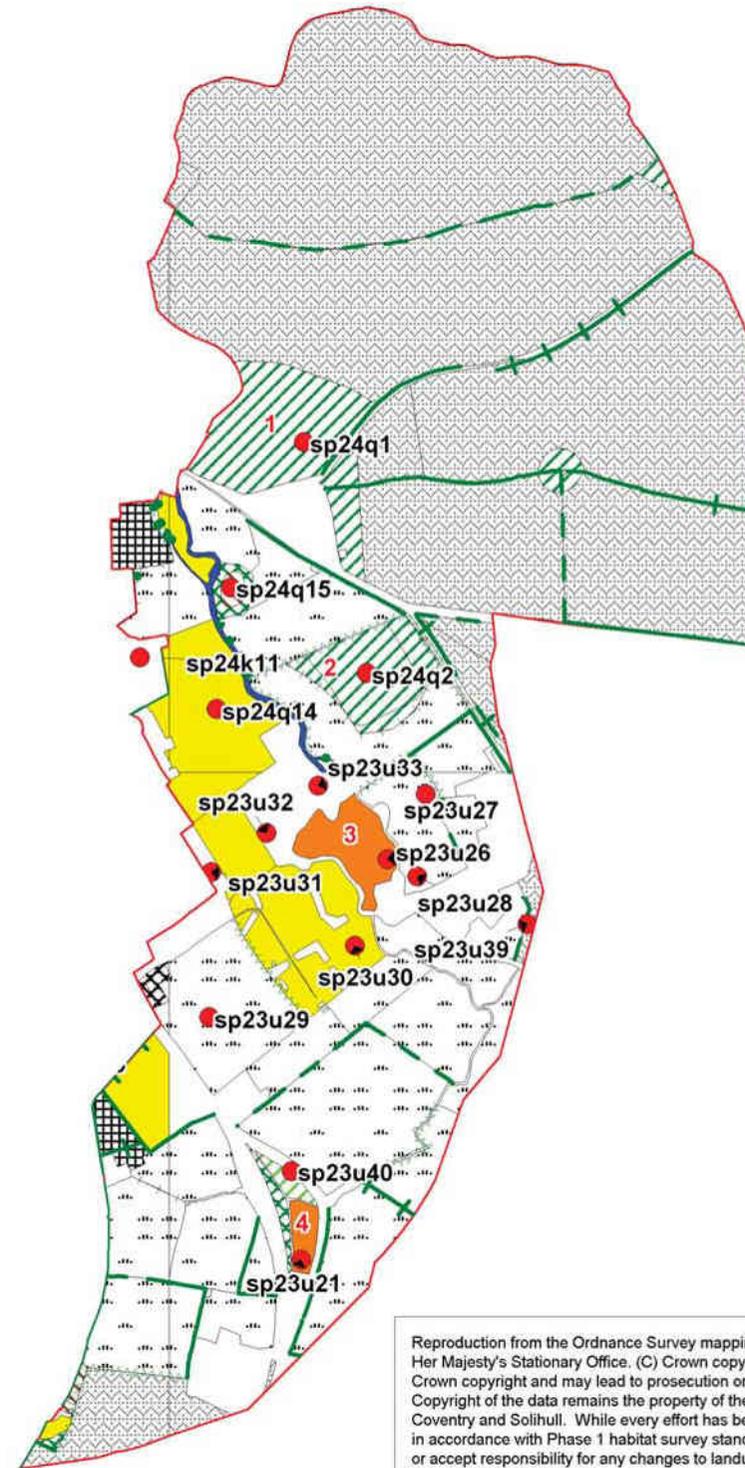
Habitat Types

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	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
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	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

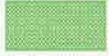
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	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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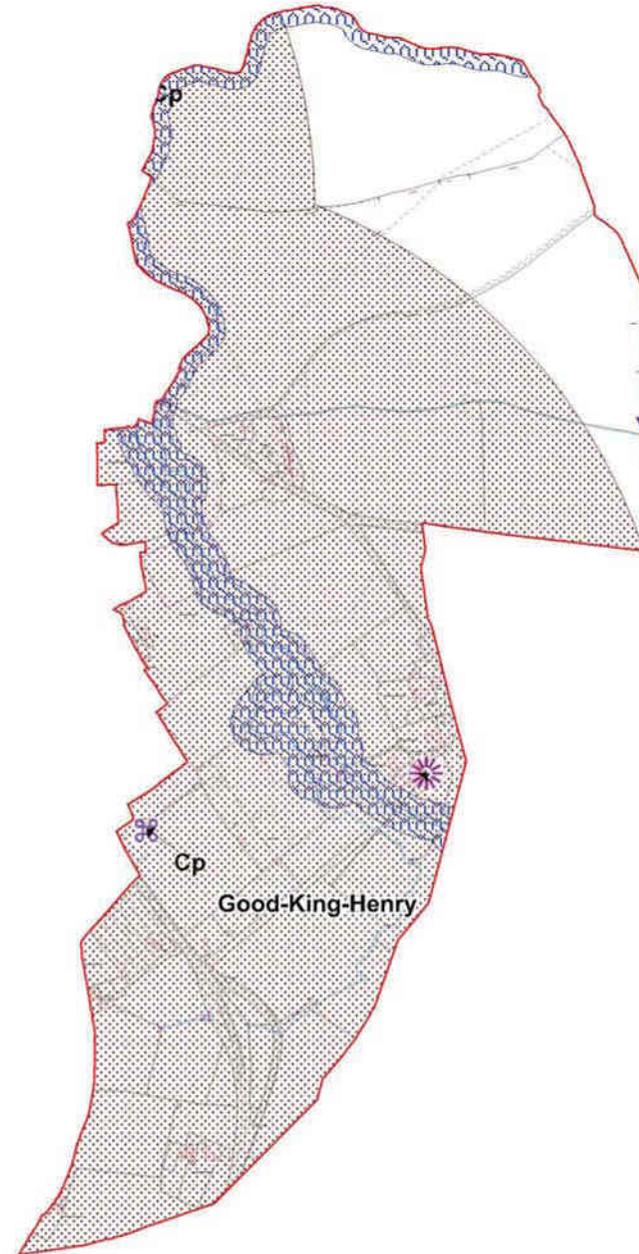
Shipston on Stour East

Species

-  Buffer zone for otter, water vole or white-clawed crayfish
-  Buffer zone for great crested newt, adder, grass snake or slow worm
-  Buffer zone for bat

-  Brown Hare
-  Reptile/amphibian
-  Barn Owl
-  BAP Butterfly
-  Black poplar
-  Veteran tree
-  County rare plant

Warwickshire Biological Records Centre
Museum Field Services
The Butts
Warwick
CV34 4SS
Tel: (01926) 418060
Fax: (01926) 412975





Shipston-on-Stour West

Area: 151.2 hectares



Phase I Habitat Survey

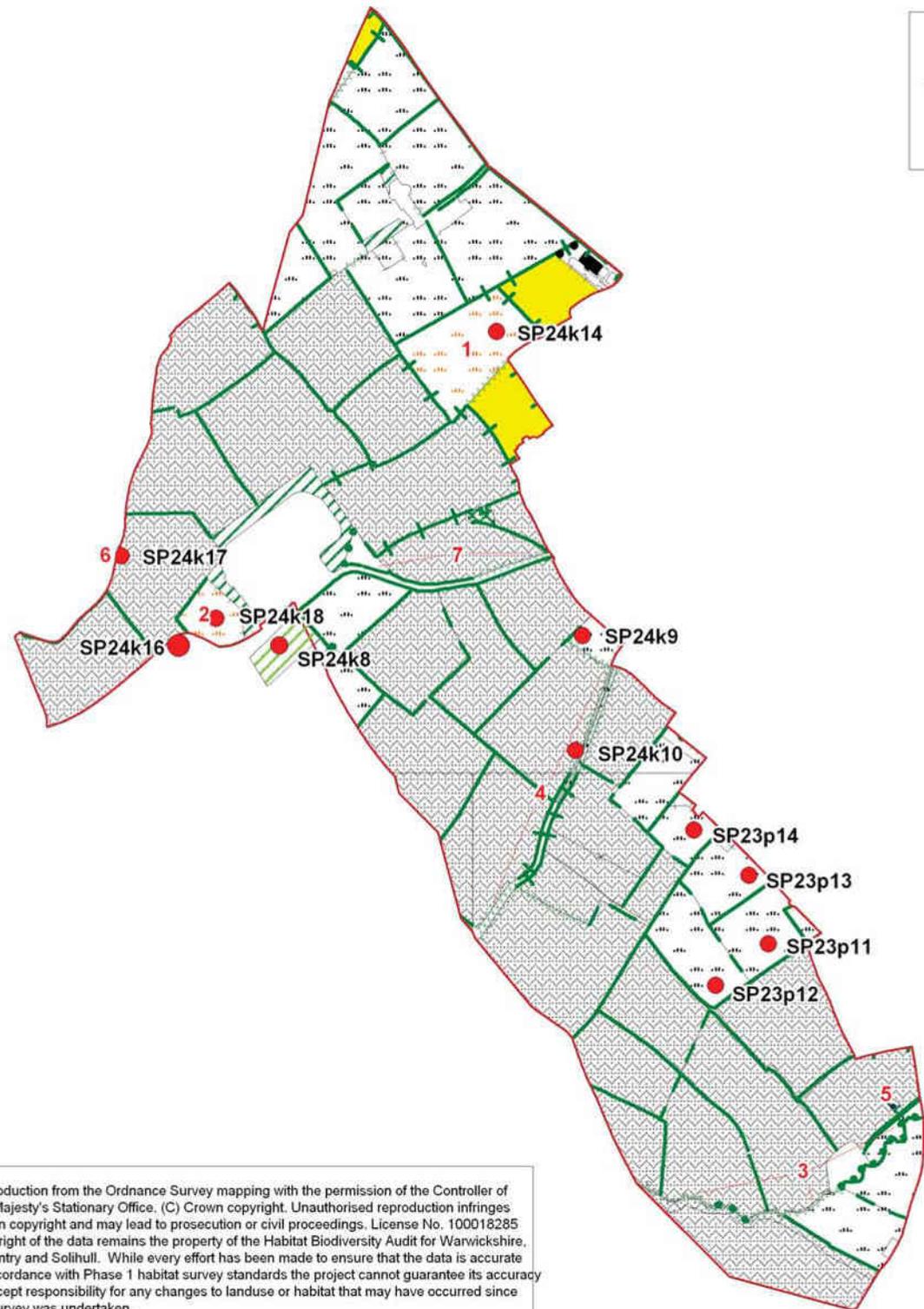
Habitat Types

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	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
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	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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Key for Reptile/Amphibian species

Tv	<i>Triturus vulgaris</i> (AKA <i>Lissotriton vulgaris</i>)	Smooth Newt
Rt	<i>Rana temporaria</i>	Common Frog
Bb	<i>Bufo bufo</i>	Common Toad
Lv	<i>Lacerta vivipara</i> (AKA <i>Zootoca vivipara</i>)	Common Lizard

Key for Red Listed and UK BAP Butterfly species

Please note that Small Blue and Dingy Skipper are also LBAP species

Cm	<i>Cupido minimus</i>	Small Blue
Cp	<i>Coenonympha pamphilus</i>	Small Heath
Et	<i>Erynnis tages</i>	Dingy Skipper
Lc	<i>Limenitis camilla</i>	White Admiral
Lm	<i>Lasiommata megera</i>	Wall
Pm	<i>Pyrgus malvae</i>	Grizzled Skipper
Swa	<i>Satyrium w-album</i>	White-letter Hairstreak

Appendix of Target Notes relating to Phase 1 Habitat Survey Maps (in alpha-numeric order)

Shipston on Stour Target Notes

SP23p

- 1.) Sheep grazed meadow with abundant *Deschampsia cespitosa* to the south of the site adjacent to a large channel feeding a mill. There is also frequent *Agrostis capillaris* with *Holcus lanatus* and *Dactylis glomerata*. The only flowering plants found during the survey were creeping and spear thistle and nettles.
- 2.) A wide channel of fast flowing water separating two semi improved fields. The level and speed of the water is artificially high due to exceptional amounts of rain in the days prior to the visit. *Juncus inflexus* *Phalaris arundinacea* *Deschampsia cespitosa* great willowherb were all seen in the channel however.
- 3.) Poor semi improved grassland with only *Dactylis glomerata* *Holcus lanatus* *Agrostis capillaris* and nettles observed at the time of the visit.
- 4.) A wide straight channel of fast flowing water at least at the time of the survey it was fast due to exceptionally heavy rains over the previous week. This channel feeds the old mill. Little aquatic vegetation was observed probably due to the increased water levels but occasional *Phalaris arundinacea* and possible *Carex riparia* were present. The banks contained nettles teasel dock and great
- 5.) Poor semi improved grassland with only *Dactylis glomerata* *Holcus lanatus* *Agrostis capillaris* and nettles observed at the time of the visit.
- 6.) Poor semi improved grassland with only *Dactylis glomerata* *Holcus lanatus* *Agrostis capillaris* and nettles observed at the time of the visit.
- 7.) A small piece of woodland dominated by ash and oak. The understorey is of abundant hawthorn with frequent elm elder privet and occasional honeysuckle. The ground layer did not contain much visible vegetation but *Bromus ramosus* cow parsley and ivy were all present with frequent *Bromus sterilis* bramble and *Dactylis glomerata* at the edges of the site.
- 8.) Occasional oak standards over young broad leaf plantation with coarse grassland and scattered scrub below.
- 9.) A border of uncultivated land around the edge of arable fields with poor semi-improved grass developing. *Holcus lanatus* *Agrostis capillaris* *Dactylis glomerata* were all seen with frequent water figwort and teasel along the sides of the Knee Brook. Few forbs were observed over the other areas.
- 10.) Ash and willow over a small pool. It is heavily shaded and dominated by nettles.
- 11.) Recently cut so no detail is possible but according to a local resident this field is left untouched until approximately September then grazed lightly by sheep. Although no flora can be described it is likely that is a good site and is worth re surveying.
- 12.) Recently cut so no detail is possible but according to a local resident this field is left untouched until approximately September then grazed lightly by sheep. Although no flora can be described it is likely that is a good site and is worth re surveying.
- 13.) Recently cut so no detail is possible but according to a local resident this field is left untouched until approximately September then grazed lightly by sheep. Although no flora can be described it is likely that is a good site and is worth re surveying.
- 14.) Recently cut so no detail is possible but according to a local resident this field is left untouched until approximately September then grazed lightly by sheep. Although no flora can be described it is likely that is a good site and is worth re surveying.

15.) It is unclear if this site is to be built on along with a current housing development underway. It is most likely that it will. Visited on 29/07/09 by MF. Area is now a housing estate.

SP23u

- 1.) An area of open water just downstream from an old mill. Due to recent heavy rain the water level is well up at the time of the survey; and all that was visible was occasional *Phalaris arundinacea* around the edge and frequent willow trees.
- 2.) *Deschampsia cespitosa* and *Agrostis capillaris* are frequent in this poor semi-improved grassland site; with occasional *Holcus lanatus* and *Dactylis glomerata*. Nettles and creeping and spear thistle are also frequent but due to the timing of the survey; no further detail is available. A timelier visit is recommended.
- 3.) An arm of the mill lade which is almost dry and probably would be completely dry but for the exceptionally wet weather prior to the visit. It contains lots of bare ground with frequent nettles and is lined by ash trees.
At the southern end of this there is an area containing occasional *Typha latifolia* and abundant *Phalaris arundinacea*.
- 4.) A brook lined with dense hawthorn scrub and occasional blackthorn with a few excellent willow pollards; full of cracks and dead wood rotting and a good habitat provider. It is well maintained. Along the brook there is also occasional hazel coppice. No aquatic vegetation is visible possibly a result of the high water due to recent heavy rain or due to shading.
- 5.) Oak dominated area with elder and blackthorn with a ground flora dominated by nettles. There is a large beech tree down recently; which may be left where it is.
- 6.) Tall ruderal vegetation and scattered scrub over coarse grass of *Dactylis glomerata*; *Holcus lanatus*; *Arrhenatherum elatius* and *Agrostis capillaris*.
- 7.) Poor semi-improved grass on a road verge of *Agrostis capillaris*; *Holcus lanatus*; *Dactylis glomerata*; *Lolium perenne* and *Arrhenatherum elatius*. Few forbs were visible but frequent creeping buttercup and cow parsley were found.
- 8.) A pond which appears to have been recently created or recently cleared. There is very little vegetation in the water; with only occasional yellow flag iris and *Juncus inflexus* at the west end. Further to the east of the pond however there are more species present with water mint; fools water cress; water cress; *Phalaris arundinacea* and water figwort; becoming more frequent to the narrower part of the pond at the far east. Around the edges of the pond there are creeping buttercup; *Holcus lanatus*; dock; nettle and occasional teasel.
- 9.) A strip of blackthorn; ash; elm; dog rose and hawthorn; along a brook formed from the overflow of a pond on the other side of the road. The brook does not appear to have any vegetation in it due to the shading from the adjacent scrub.
- 10.) Poor semi-improved grassland with *Agrostis capillaris*; *Holcus lanatus*; *Poa* sp. and *Lolium perenne*. There are occasional creeping and spear thistle; nettle; chickweed; clovers and creeping buttercup.
- 11.) Poor semi-improved grassland with *Agrostis capillaris*; *Holcus lanatus*; *Dactylis glomerata*; *Poa* sp. and *Lolium perenne*. There are occasional creeping and spear thistle; nettle; chickweed; clovers and creeping buttercup.
- 12.) A small brook heavily shaded on the east bank by scrub; which includes elder; elm regeneration; bramble and willow over ground with abundant nettles; and creeping buttercup; dock; ivy and cow parsley. The west bank is poor semi-

improved grassland with an informal path running through it. *Bromus sterilis*; *Dactylis glomerata*; *Holcus lanatus* and bramble with scattered elder scrub are found here.

13.) Poor semi-improved grassland with *Agrostis capillaris*; *Holcus lanatus*; *Poa* sp. and *Lolium perenne*. There are occasional creeping and spear thistle; nettle; chickweed; clovers and creeping buttercup.

14.) Poor semi-improved grassland with *Agrostis capillaris*; *Holcus lanatus*; *Poa* sp. and *Lolium perenne*. There are occasional creeping and spear thistle; nettle; chickweed; clovers and creeping buttercup.

15.) Poor semi-improved grassland with abundant *Lolium perenne* and frequent *Holcus lanatus*; *Dactylis glomerata* and *Agrostis capillaris*.

16.) The east of this pond is fed by a small brook and where they meet there is an area of abundant yellow flag iris; *Juncus inflexus*; *Juncus effusus* and *Phalaris arundinacea*. Great willowherb; young willow trees and occasional mature willows are also found here.

17.) A small patch of rough grass; with abundant *Dactylis glomerata*; *Arrhenatherum elatius* and *Festuca rubra*; with occasional *Deschampsia cespitosa* and *Phalaris arundinacea*. Hogweed is abundant over this area with common sorrel; creeping and spear thistle; nettles and occasional ground ivy all found.

18.) No access to this area was possible due to the nature of the vegetation but viewed from the sides it appeared to be completely dominated by dense scrub.

19.) The River Stour was atypically high at the time of the visit due to heavy rain. No associated vegetation was visible as a result; but the banks hold frequent mature willow pollards.

20.) An area of woodland attached to a private garden; but allowed to grow wild. It contains oak; ash; hornbeam and sycamore in the canopy. Snowberry is beginning to become a problem in the site; but occasional elder is also present. The ground flora contains only nettles.

21.) *Dactylis glomerata* is dominant in this area of grassland between two small coniferous plantations and scrub. There is also frequent *Holcus lanatus*; *Arrhenatherum elatius*; *Cynosurus cristatus* and *Festuca rubra*. Cow parsley; creeping buttercup and creeping and spear thistle are occasional across the site.

22.) Ivy Ground Spinney is an area of mature planted trees; possibly now established enough to be classed as semi natural woodland. It contains an oak dominated canopy; with occasional ash; hornbeam and sycamore. There is very little understorey with just occasional elder present; and the ground flora is sparse with occasional *Dactylis glomerata* and nettles.

23.) It was not possible to get access to this part of Ivy Ground Spinney; but it appeared to be a denser region of the area immediately to the north. It contains an oak dominated canopy; with occasional ash; hornbeam and sycamore. There is very little understorey with just occasional elder present; and the ground flora is sparse with occasional *Dactylis glomerata* and nettles.

24.) An area of mature planted trees; possibly now established enough to be classed as semi natural woodland. It contains an oak dominated canopy; with occasional ash; hornbeam and sycamore. There is very little understorey with just occasional elder present; and the ground flora is sparse with occasional *Dactylis glomerata* and nettles. To the east end of this are the canopy thins out and only occasional hornbeam remain with the understorey becoming denser all the time with hawthorn present.

25.) Two small paddocks which could be poor semi-improved grassland but need a revisit to be sure as it was not possible to gain direct access during this survey.

- 26.) An island formed by the River Stour and a branch to feed a mill. This has a house and small area of garden at the south tip; but the majority of the site is rough grass dominated by *Dactylis glomerata*; with frequent *Arrhenatherum elatius*; *Holcus lanatus*; *Agrostis capillaris* and *Festuca rubra*. Few forbs were visible; nettles and docks the most frequent and occasionally forming dense patches. Occasional creeping buttercup; creeping thistle; hogweed and cow parsley were found with possibly ladies bedstraw in one area at the west bank of the island. The river has been recently dredged and little aquatic vegetation was present with occasional *Phalaris arundinacea* and water figwort. Occasional teasel and great willowherb are found along the banks.
- 27.) Poor semi-improved grassland grazed by sheep. The grass was very close grazed and no species could be identified with confidence. There are occasional young horse chestnut planted across the field. Visited on 28/07/09 by MD. Mainly rye-grass and Yorkshire fog.
- 28.) A small pond; possibly a flooded area of a field; but is surrounded by many willow pollards. No other associated pond vegetation was seen.
- 29.) This field appears to be improved with grade 2 ridge and furrow. There is a large pile of earth across the middle of the site. A single willow pollard in the middle of the field.
- 30.) An area used by the girl guides so should be classed as amenity; but is currently being grazed by sheep. There are a few patches of young planted trees across the site. Visited on 28/07/09 by MD. Camp site. A patchwork of small clumps of trees with closely mown grass and defunct hedge lines.
- 31.) A strip of rough grass and tall ruderal vegetation dominated by *Dactylis glomerata* and *Arrhenatherum elatius*; with creeping and spear thistle and nettles. This is bordered by houses on one side and a football pitch on the other.
- 32.) Bare ground and dense chickweed; with occasional prickly lettuce; red dead nettle and prickly sow thistle in an area of recently disturbed ground.
- 33.) *Arrhenatherum elatius*; *Dactylis glomerata*; *Lolium perenne*; *Holcus lanatus* and *Agrostis capillaris* are frequent in this site; with occasional nettles and creeping and spear thistle.
- 34.) The River Stour is high due to heavy rainfall recently. There is no vegetation in the river and the banks seem to be eroding. There are many willow pollards along the top of the bank.
- 35.) A field which is dominated by what appears to be kidney vetch; but is in too poor a condition to be certain. Salad burnet is also found occasionally; with *Poa* sp.
- 36.) This appears to be improved but due to the season it is not altogether clear. A further visit is recommended.
- 37.) Poor semi-improved grassland with abundant *Lolium perenne* and frequent *Holcus lanatus*; *Dactylis glomerata* and *Agrostis capillaris*.
- 38.) A field which is dominated by what appears to be kidney vetch; but is in too poor a condition to be certain. Salad burnet is also found occasionally; with *Poa* sp.
- 39.) Visited on 28/07/09 by MD. A 10 m margin to field edge with tall ruderal between hedge and crop. Alsike clover, lotus, teasel.
- 40.) Visited on 28/07/09 by MD. Old road, fairly species rich.

SP24k

- 1.) Recently cut possibly semi-improved meadow. Needs a further survey.

- 2.) Recently cut possibly semi-improved meadow. The site is a SSSI recorded as containing abundant lady's smock in the furrows with cowslips and yellow rattle on the ridges. There was no sign of ridge and furrow or forb species during this survey.
- 3.) Small poor semi-improved pony paddock with frequent *Poa* spp. and occasional *Dactylis glomerata*; *Bromus mollis* and *Festuca rubra*. Forbs are scattered but include frequent creeping buttercup; bristly ox-tongue; white clover; ribwort plantain; autumn hawkbit; self-heal and occasional hawkweed and creeping thistle.
- 4.) Subdivided horse grazed poor semi-improved field with patches of tall herbs. The grasses are dominated by *Phleum pratense* with *Arrhenatherum elatius*; *Dactylis glomerata*; *Holcus lanatus*; *Lolium perenne* and *Phleum pratense*. There are frequent red clover; ragwort; sow thistle and creeping thistle with occasional black knapweed; sorrel; bristly ox-tongue; broad-leaved dock; cats-ear and creeping cinquefoil.
- 5.) Small poor semi-improved pony paddock with frequent *Poa* spp. and occasional *Dactylis glomerata*; *Bromus mollis* and *Festuca rubra*. Forbs are scattered but include frequent creeping buttercup; bristly ox-tongue; white clover; ribwort plantain; autumn hawkbit; self-heal and occasional hawkweed; black medick; bird's-foot trefoil and creeping thistle.
- 6.) Earth and rubble bank colonised by nettle and teasel with bramble scrub; *Arrhenatherum elatius*; *Holcus lanatus*; *Elytrigia repens*; hawkweed; sow thistle and patches of colt's-foot.
- 7.) No access. Seen from the gate it appears to be an overgrown industrial site with scattered elder and hawthorn scrub over tall herbs such as nettle; dock; bramble with occasional weld; teasel; mugwort; hawkweed and occasional traveller's joy.
- 8.) Old orchard with well spaced apple trees over rough horse grazed grassland dominated by *Arrhenatherum elatius*; *Dactylis glomerata*; *Holcus lanatus* occasional *Lolium perenne* and *Phleum pratense* and scattered nettle and broad-leaved dock.
- 9.) Rough grassland dominated by *Arrhenatherum elatius*; *Holcus lanatus*; *Dactylis glomerata* with occasional *Phleum pratense* and *Elytrigia repens*. Contains scattered creeping thistle and nettle with occasional upright hedge parsley.
- 10.) Gravel track lined by species rich hedge with a mix of hawthorn; dogwood; wild privet; bramble; blackthorn; dog rose; elm and occasional ash; elder; plum and oak.. The verge are dominated by *Arrhenatherum elatius* with *Dactylis glomerata*; *Holcus lanatus*; *Cynosurus cristatus*; *Poa pratensis*; *Lolium perenne*; *Phleum pratense* and occasional *Festuca rubra*. Forbs include black knapweed; red bartsia; red clover and occasional meadow vetchling.
- 11.) A small area of rough grassland and disturbed ground with frequent *Arrhenatherum elatius*; *Dactylis glomerata* and *Elytrigia repens* and forbs and tall herbs such as teasel; broad-leaved dock; sow thistle; bristly ox-tongue and occasional great burnet and meadowsweet.
- 12.) Poor horse grazed semi-improved pasture dominated by *Dactylis glomerata*; *Holcus lanatus* with *Lolium perenne* and occasional *Phleum pratense* and *Festuca rubra*. Forbs such as creeping buttercup and sorrel are scarce and there are patches of creeping thistle; nettle and broad-leaved dock.
- 13.) Visited on 28/07/09 by MF. Poor semi-improved meadow. Small area that local people intend to improve for wildlife and amenity use. Forbs: common mouse-ear, creeping thistle, curled dock, oxford ragwort, hogweed, scentless mayweed, white clover, creeping buttercup.

14.) Visited on 28/07/09 by MF. Poor semi-improved meadow. Creeping thistle, rosebay willowherb, Oxford ragwort, curled dock, creeping buttercup, creeping bent. Oak and hawthorn saplings.

15.) Visited on 28/07/09 by MF. Strip of improved grassland at north-west of field.

16.) Visited on 18/09/09 by MF. Species rich roadside verge and hedgerow -- bramble, elm, hawthorn, bittersweet, creeping thistle, curled dock, rough chervil, dandelion, ribwort plantain, meadow buttercup, creeping buttercup, occasional common nettle, yarrow, mugwort, hogweed, autumn hawkbit, meadow vetchling, greater plantain, great willowherb, red clover.

17.) Visited on 18/09/09 by MF. Dried out hawthorn and willow scrub hollow. There may be a small area of marshy grass left with fool's watercress, but it was very difficult to view. Surrounding the scrub were common nettle, bramble, creeping thistle, great willowherb, elder.

18.) Visited on 18/09/09 by MF. Species poor semi-improved meadow -- creeping buttercup, bulbous buttercup, curled dock, bristly ox tongue, very occasional meadow buttercup, creeping thistle, hogweed, white clover, ribwort plantain.

SP24q

1.) Young broad-leaved plantation of ash; willow; oak; cherry and occasional spindle; dogwood; blackthorn; alder; wild privet; beech and sycamore all over *Dactylis glomerata*; *Poa trivialis*; *Holcus lanatus* with frequent creeping buttercup; broad-leaved dock; creeping thistle and nettle and occasional rosebay willowherb.

2.) Young broad-leaved plantation of ash; willow; oak; cherry and occasional spindle; dogwood; blackthorn; alder; wild privet; beech and sycamore all over *Dactylis glomerata*; *Poa trivialis*; *Holcus lanatus* with frequent creeping buttercup; broad-leaved dock; creeping thistle and nettle and occasional rosebay willowherb. Visited on 03/02/10 by MF. Plantation surrounded by fencing. According to dog walkers, buzzards and sparrowhawks are regularly seen. No access; only ash and oak clearly visible from roadside.

3.) Young broad-leaved plantation of oak and ash with occasional cherry over coarse grasses such as *Dactylis glomerata*; *Holcus lanatus* and *Arrhenatherum elatius*.

4.) Severn Trent sewage treatment reed bed of *Phragmites australis*.

5.) Poor semi-improved cattle grazed grassland on ridge and furrow with frequent *Poa pratensis* with *Dactylis glomerata*; *Festuca rubra*; *Lolium perenne* and occasional *Agrostis tenuis*. Forbs are scarce but include occasional autumn hawkbit; dandelion; germander speedwell with ground ivy; cow parsley and nettle found around the edges.

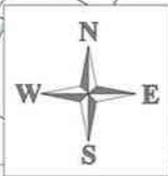
6.) Orchard over poor semi-improved grassland.

7.) Sub-divided sheep grazed poor semi-improved pasture dominated by *Poa* spp. with occasional *Holcus lanatus* and *Cynosurus cristatus*. Forbs are scarce except for dandelion; with occasional red clover; autumn hawkbit; mouse-ear and broad-leaved dock.

8.) Heavily horse grazed poor semi-improved grassland on hummocky terrain; cropped very short with frequent *Poa pratensis*; *Dactylis glomerata* and occasional *Festuca rubra*. There are frequent broad-leaved dock; nettle; bulbous buttercup; white clover; ribwort plantain and occasional ground ivy; self-heal; red clover; autumn hawkbit and red campion along the hedgerows.

- 9.) Poor semi-improved cattle grazed grassland with frequent *Cynosurus cristatus*; *Lolium perenne*; *Poa pratensis* and *Dactylis glomerata*. There are scattered patches of lady's bedstraw.
- 10.) Two small ponds surrounded by pollarded willows with occasional *Glyceria fluitans*; branched bur-reed and broad-leaved pondweed.
- 11.) New broad-leaved plantation of ash and oak over rough grassland dominated by *Arrhenatherum elatius*; *Dactylis glomerata* and *Holcus lanatus* with creeping thistle and broad-leaved dock.
- 12.) Recently excavated pond with; as yet; no aquatic vegetation and very few emergent species occasional *Juncus effusus*; *Deschampsia cespitosa* and celery-leaved buttercup. Two small islands are covered by young crack willow. There is new broad-leaved plantation surrounding the pond of ash and oak over rough grassland dominated by *Arrhenatherum elatius*; *Dactylis glomerata* and *Holcus lanatus* with creeping thistle and broad-leaved dock. The pond is stocked with carp.
- 13.) Hawthorn; willow and elder scrub bordered by mature oak and ash.
- 14.) Visited on 28/07/09 by MD. Football pitches and play area.
- 15.) Visited on 28/07/09 by MD. Tall ruderal with blackthorn scrub. Once an old orchard with some fruit trees.
- 16.) Visited on 18/09/09 by MF. Improved ridge and furrow meadow. Field margins are most interesting and contain knotgrass, creeping thistle, greater plantain, great willowherb, autumn hawkbit, dandelion.
- 17.) Visited on 18/09/09 by MF. Species rich hedge with trees, sycamore and lime, planted behind it. Hedge contains elm, elder, sycamore, hazel, hawthorn, ash, bramble, bittersweet.
- 18.) Visited on 18/09/09 by MF. Plantation includes beech, horse-chestnut, ash, lime, crack willow.
- 19.) Visited on 18/09/09 by MF. Elm hedge with ground flora of ground ivy and sweet violet.
- 20.) Visited on 18/09/09 by MF. Improved ridge and furrow meadow, dominated by tall, coarse grasses. Contains creeping thistle, common nettle, hogweed and curled dock. Also contains occasional cultivated pear and apple trees that look very old.
- 21.) Visited on 18/09/09 by MF. Species rich roadside verge, which has had recent disturbance due to roadworks. Autumn hawkbit, scentless mayweed, mugwort, hawkweed, ox tongue, creeping cinquefoil, white dead-nettle, yarrow, ox-eye daisy, common knapweed, ribwort plantain, rough chervil.
- 22.) Visited on 03/02/10 by MF. Semi natural woodland of ash and sycamore mixed with a small plantation of young saplings which could not be identified from the bank of the River Stour. The east bank adjacent to the woodland had been planted/sown with a 10 m wide strip of sunflowers (possibly as game bird cover) most of which had died back over the winter. The east bank of the south of the woodland is edged with crack willow and hawthorn. A female roe deer with foal were seen.

Southam



North-West

North-East

Southam

SOUTHAM CP

South-West

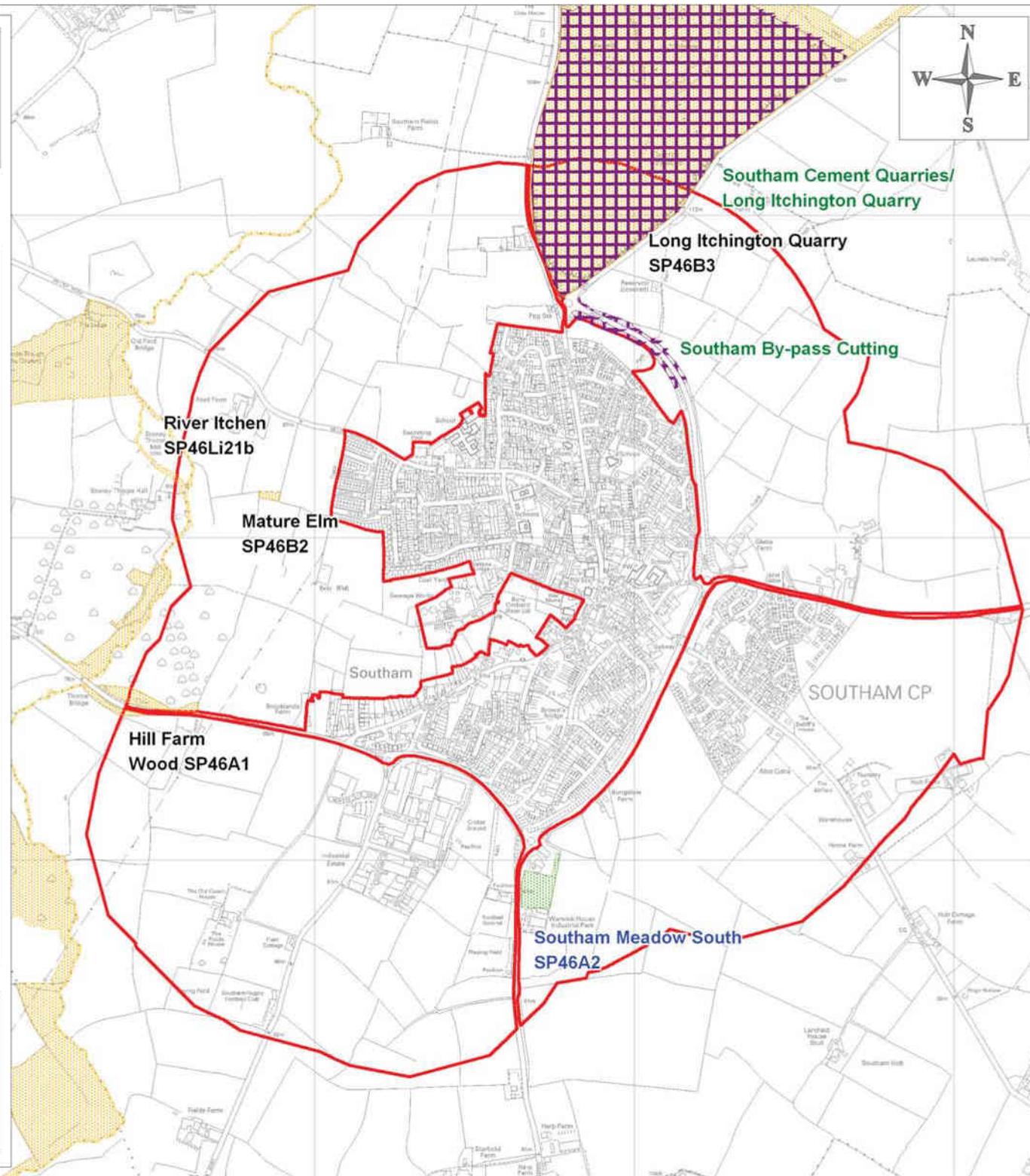
South-East

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Southam Local Sites

-  Potential Local Wildlife Site (pLWS/SINC)
-  Local Wildlife Site (LWS/SINC)
-  Rejected potential Local Wildlife Site
-  Destroyed Local Wildlife Site
-  SSSI
-  RIGS
-  LNR



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Southam - HBA

Phase I Habitat Survey

Habitat Types

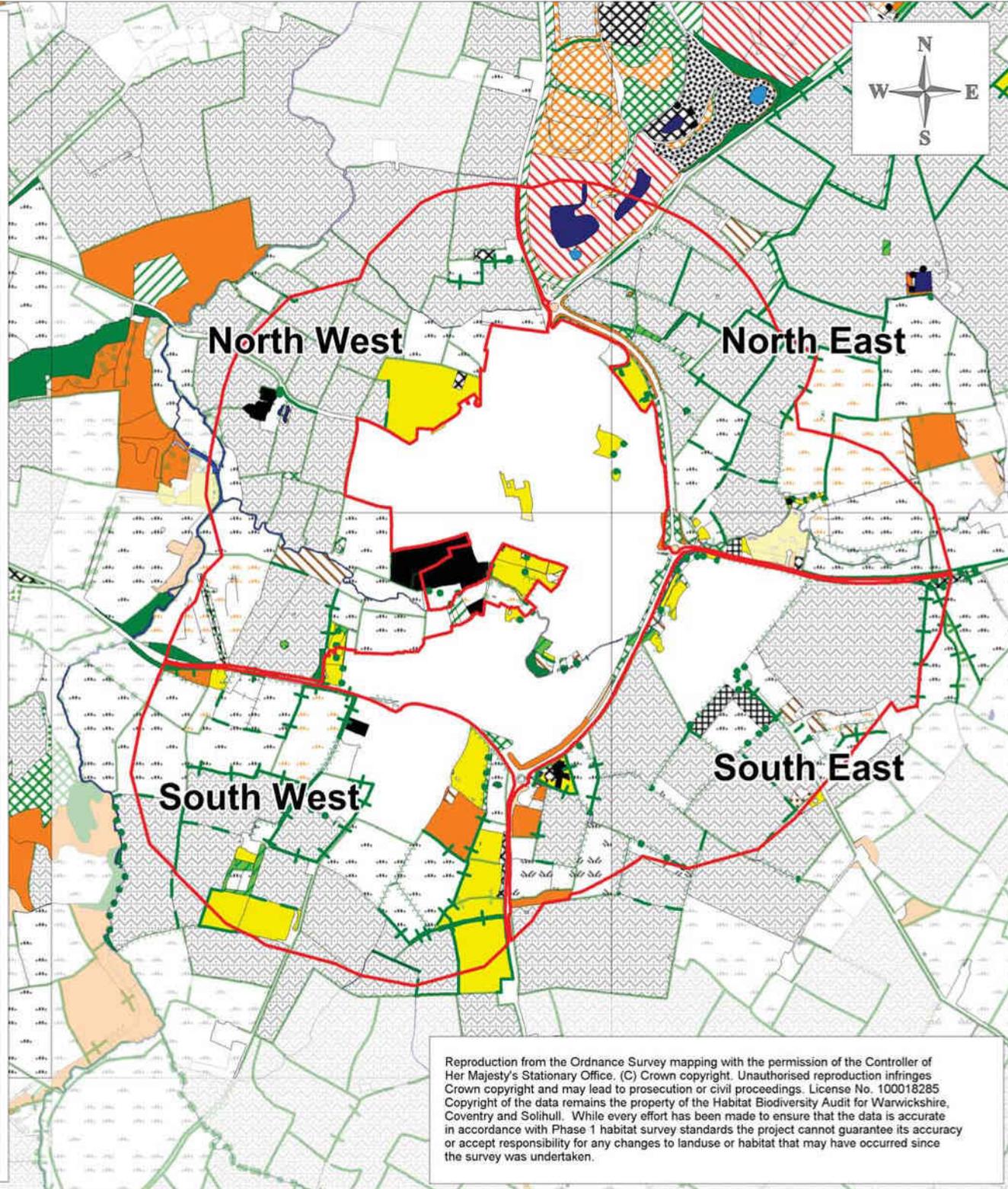
	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		

NB Data with a survey date before 2005 is displayed with muted tones



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Southam North-East

Area: 99.4 hectares



Phase I Habitat Survey

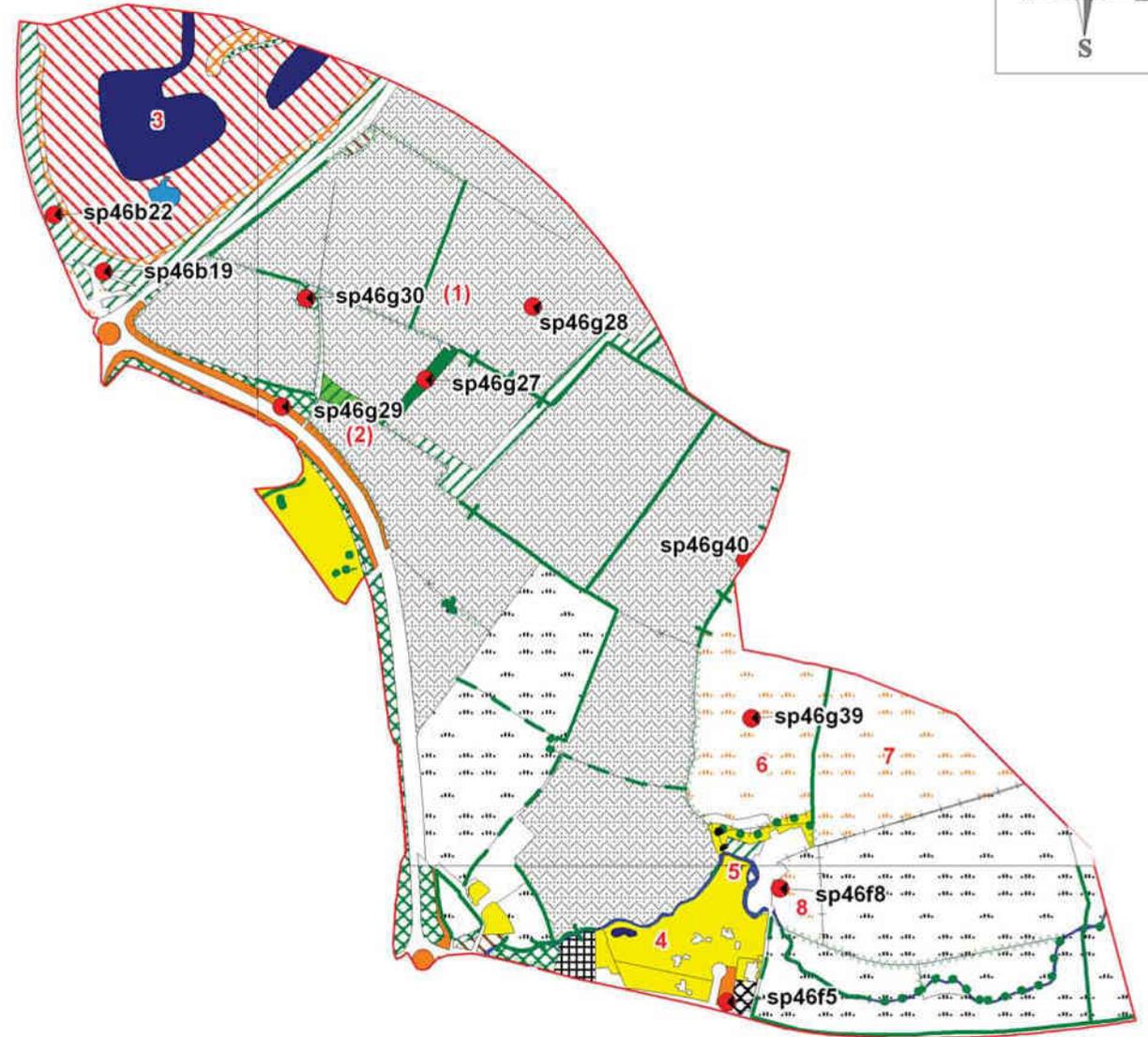
Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
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	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
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	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
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Southam North East

Species

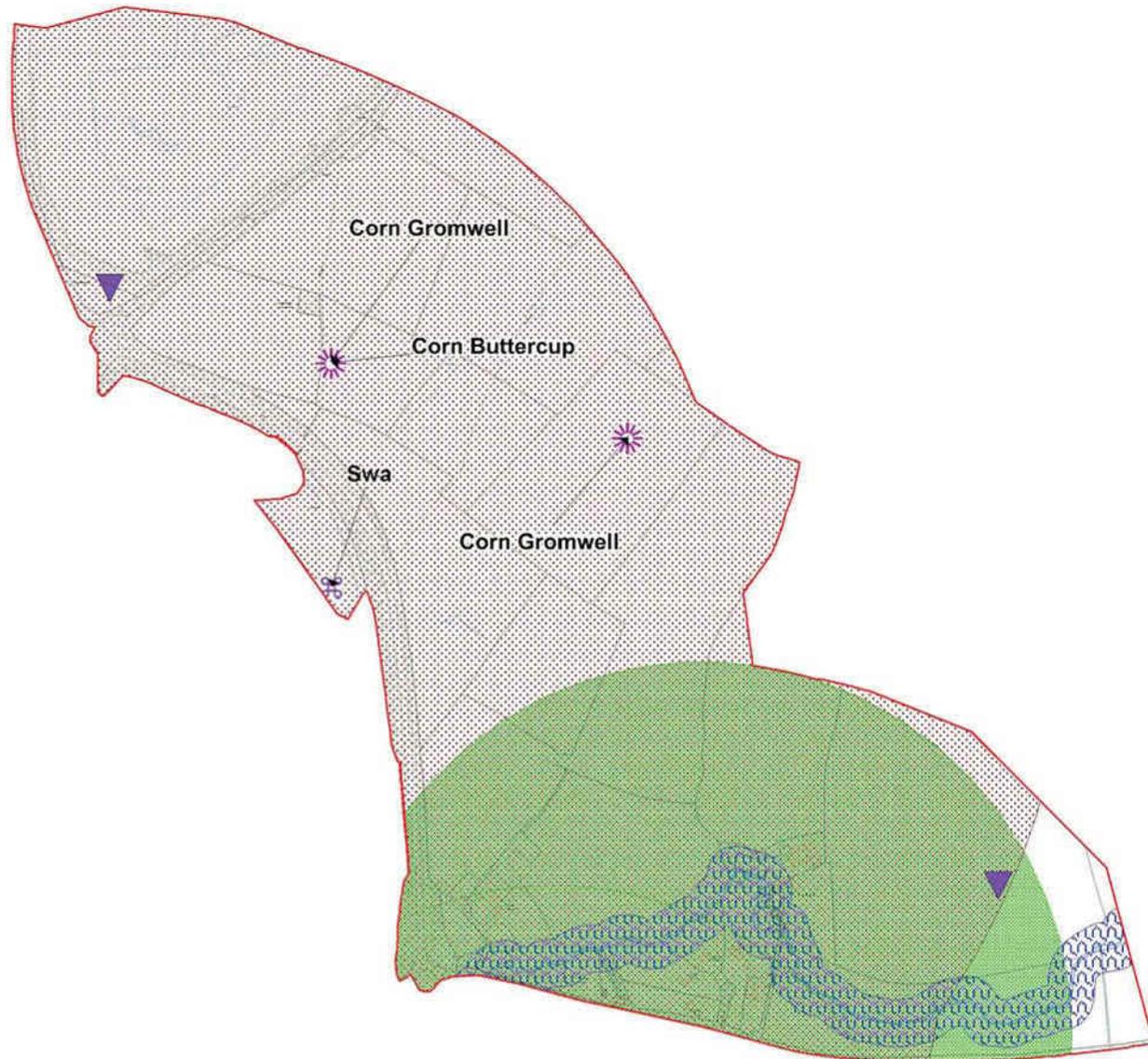
 Buffer zone for otter, water vole or white-clawed crayfish

 Buffer zone for great crested newt, adder, grass snake or slow worm

 Buffer zone for bat

-  Brown Hare
-  Reptile/amphibian
-  Barn Owl
-  BAP Butterfly
-  Black poplar
-  Veteran tree
-  County rare plant

Warwickshire Biological Records Centre
Museum Field Services
The Butts
Warwick
CV34 4SS
Tel: (01926) 418060
Fax: (01926) 412975



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Southam - South-East

Area: 111.0 hectares



Phase I Habitat Survey

Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
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	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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Southam South East

Species

 Buffer zone for otter, water vole or white-clawed crayfish

 Buffer zone for great crested newt, adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

 Barn Owl

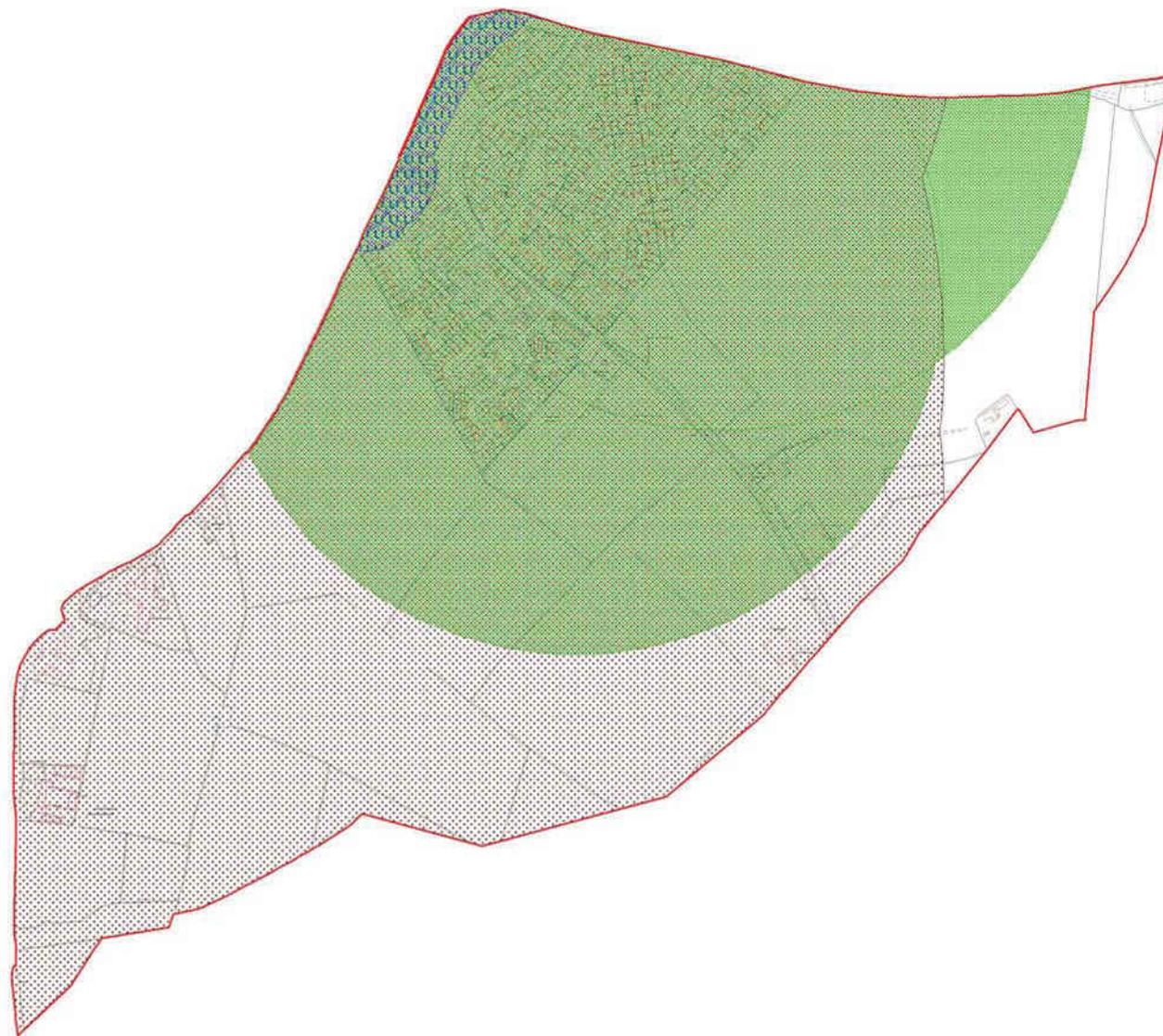
 BAP Butterfly

 Black poplar

 Veteran tree

 County rare plant

Warwickshire Biological Records Centre
Museum Field Services
The Butts
Warwick
CV34 4SS
Tel: (01926) 418060
Fax: (01926) 412975



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Southam - South West



Area: 116.6 hectares

Phase I Habitat Survey

14/04/2016

	Grassland		Woodland

Phase II - 14/04/2016

14/04/2016

	Boundary		Boundary
	Boundary		Boundary
	Boundary		Boundary



Scale: 1:10,000

North arrow

Legend

Phase I Habitat Survey

Phase II - 14/04/2016

Area: 116.6 hectares

Southam South West

Species



Buffer zone for otter, water vole
or white-clawed crayfish



Buffer zone for great crested newt,
adder, grass snake or slow worm



Buffer zone for bat



Brown Hare



Reptile/amphibian



Barn Owl



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Southam North West

Area: 126.2 hectares



Phase I Habitat Survey

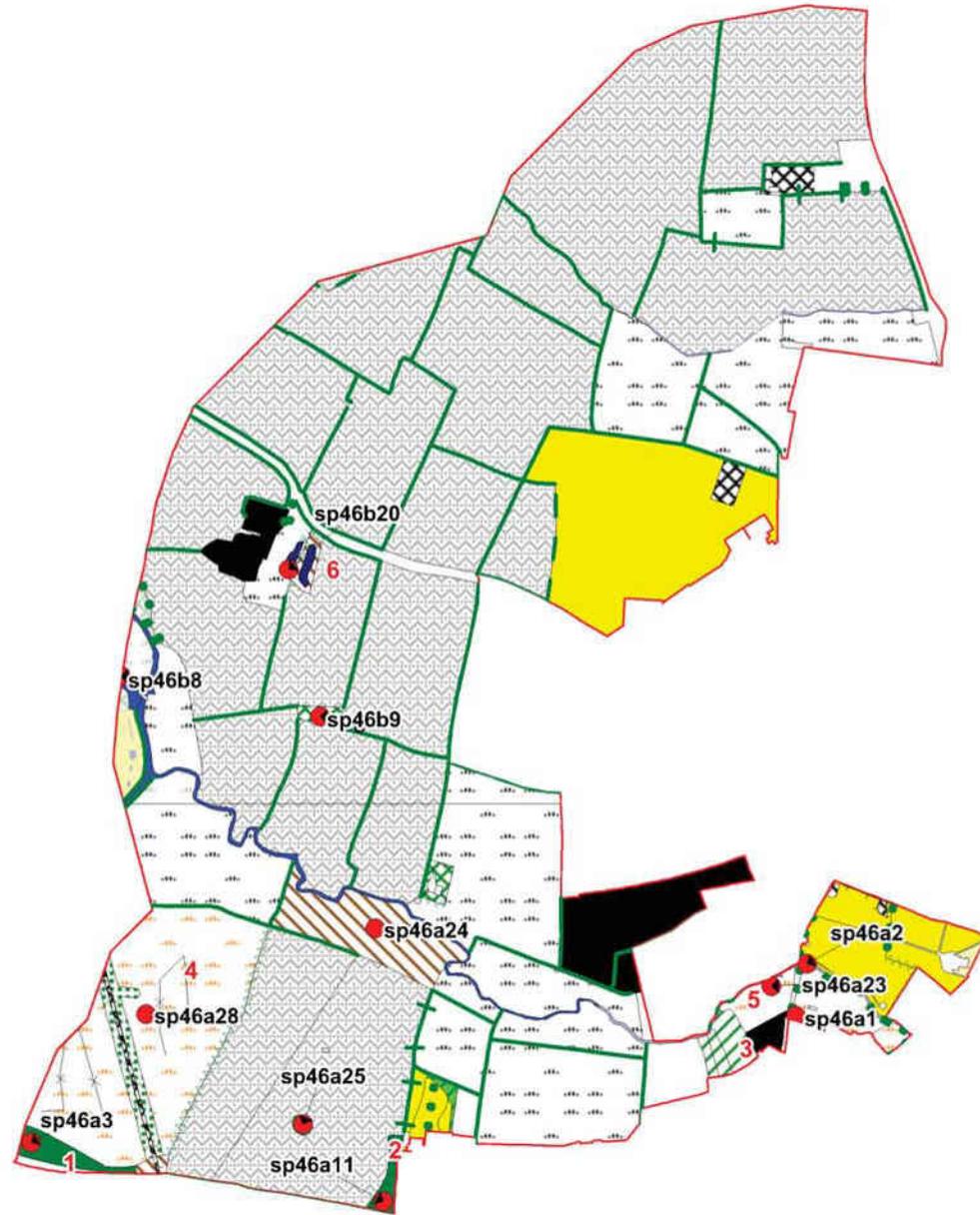
Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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Southam North West

Species

 Buffer zone for otter, water vole or white-clawed crayfish

 Buffer zone for great crested newt, adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

 Barn Owl

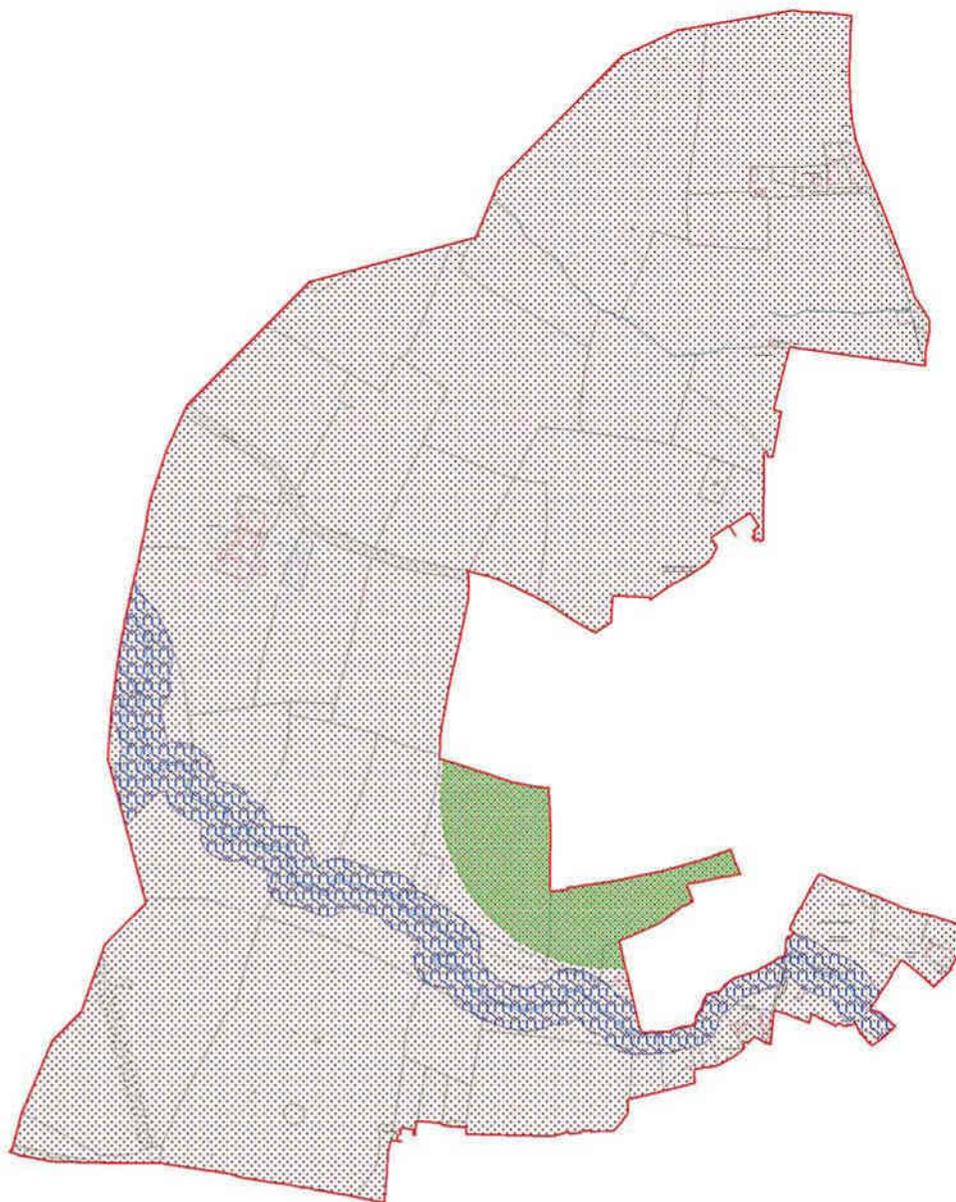
 BAP Butterfly

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Key for Reptile/Amphibian species

Tv	<i>Triturus vulgaris</i> (AKA <i>Lissotriton vulgaris</i>)	Smooth Newt
Rt	<i>Rana temporaria</i>	Common Frog
Bb	<i>Bufo bufo</i>	Common Toad
Lv	<i>Lacerta vivipara</i> (AKA <i>Zootoca vivipara</i>)	Common Lizard

Key for Red Listed and UK BAP Butterfly species

Please note that Small Blue and Dingy Skipper are also LBAP species

Cm	<i>Cupido minimus</i>	Small Blue
Cp	<i>Coenonympha pamphilus</i>	Small Heath
Et	<i>Erynnis tages</i>	Dingy Skipper
Lc	<i>Limenitis camilla</i>	White Admiral
Lm	<i>Lasiommata megera</i>	Wall
Pm	<i>Pyrgus malvae</i>	Grizzled Skipper
Swa	<i>Satyrium w-album</i>	White-letter Hairstreak

Appendix of Target Notes relating to Phase 1 Habitat Survey Maps (in alpha-numeric order)

Southam Target Notes

SP46a

- 1.) Poor semi improved grassland dominated by *Holcus lanatus*; *Arrhenatherum elatius*; *Lolium perenne*; *Cynosurus cristatus* and *Poa* sp; with occasional *Dactylis glomerata* and *Hordeum secalinum*. The only forbs recorded during the visit were nettles and thistles. Oak trees have been [planted along the brook at the north of the site.
- 2.) A brook with much hawthorn scrub growing over it with the lack of light preventing any aquatic vegetation becoming established. In the occasional open area there is dense *Phalaris arundinacea*, meadowsweet and nettles along the banks. [By the bridge under the road there is plenty of aquatic vegetation e.g. arrowhead, fool's watercress, water figwort, branched bur reed and water forget-me-not,- PD]
- 3.) A strip of ash and oak dominated woodland with a dense understorey of field maple; elm regeneration; hazel; hawthorn; and sycamore. There are occasional aspen; larch and horse chestnut planted in with these and many young planted conifers at the edges.
- 4.) An area of dense scrub with occasional ash standards.
- 5.) Ash and willow trees over aspen and hawthorn which form a sparse understorey with occasional introduced scrub. The ground layer contains frequent nettles; great willowherb and wild angelica.
- 6.) An area of an industrial estate ear-marked for development. It contains rank grass dominated by *Arrhenatherum elatius* and *Dactylis glomerata* with *Phleum pratense* and *Lolium perenne*. There was also frequent ragwort; creeping and spear thistle; creeping buttercup; black medick; docks and clovers across the site.
- 7.) Rank grassland with dominant *Arrhenatherum elatius* and *Lolium perenne*. Few forbs were observed with occasional hogweed; yarrow; creeping and spear thistle; docks and nettles.
- 8.) An area of rank grassland along the side of a road. There is abundant *Arrhenatherum elatius*; *Dactylis glomerata* and *Elytrigia repens* with occasional *Holcus lanatus* and *Agrostis capillaris*. The forbs recorded are occasional wild onion; black knapweed; creeping and spear thistle; mugwort; creeping cinquefoil; mayweed and prickly lettuce.[Much of this area is now covered by a British Legion Old People's Home.- PD]
- 9.) No direct access to this site but viewed from the edges it was seen to contain *Arrhenatherum elatius*; *Dactylis glomerata*; *Holcus lanatus* and *Alopecurus pratensis*. There was also abundant black knapweed; with creeping and spear thistle and ragwort.
- 10.) Road side embankment dominated by *Arrhenatherum elatius* with *Elytrigia repens*; *Avena fatua*; *Dactylis glomerata*; *Festuca rubra* and *Phleum pratense*. Occasional hogweed; creeping and spear thistle; bittersweet; creeping cinquefoil; dock and ragwort.[Much of this area is now covered by a British Legion Old People's Home.- PD]
- 11.) A small area of ash dominated woodland with an impenetrably dense understorey of field maple; hawthorn; blackthorn and elm regeneration. There are occasional oak beech and sycamore also present in the canopy.

- 12.) A mosaic of rank grass and tall ruderal vegetation; dominated by *Arrhenatherum elatius*; with frequent *Dactylis glomerata*; *Holcus lanatus*; *Lolium perenne*; *Festuca rubra*; and *Phleum pratense*. There is frequent docks; nettles; cow parsley; field bindweed; creeping and spear thistle and ragwort. The tall ruderal areas have rosebay willowherb and nettles co-dominant.
- 13.) Semi improved grassland dominated by *Phleum pratense*; with frequent *Holcus lanatus* and *Arrhenatherum elatius*; and occasional *Deschampsia cespitosa*; *Dactylis glomerata* and *Hordeum murinum*. Most of the site contains a uniform forb community of creeping and spear thistle; dock and creeping buttercup; but in some areas there is more moisture in the soil; and here there is frequent silverweed and *Carex hirta*. Occasional teasel and water mint are also found by the brook.
- 14.) Branched bur-reed is abundant along the edges of the brook; with patches of *Phalaris arundinacea* and white water lily present. There is evidence of poaching along the edges; and occasionally dense scrub covers the brook; but mostly the banks are dominated by great willowherb and meadowsweet.
- 15.) This field is mostly dominated by *Lolium perenne* but also contains frequent *Cynosurus cristatus*; occasional *Holcus lanatus* and *Hordeum murinum* with occasional ladies bedstraw creeping and spear thistle; and clover.
- 16.) Ditch with frequent water mint; water figwort; creeping and spear thistle; *Dactylis glomerata* and *Carex hirta*.
- 17.) Recently cut at the time of the survey but appeared to be semi improved with *Dactylis glomerata*; *Phleum pratense*; creeping and spear thistle; creeping buttercup and creeping cinquefoil all visible still. There is a mound of earth in the north east corner with occasional hawthorn scrub; and plantains and silverweed abundant at the base.
- 18.) The brook contains frequent *Phragmites australis* and *Phalaris arundinacea*; with occasional white water lily also. The banks are of abundant meadowsweet. A red admiral butterfly was seen flying over during the visit.
- 19.) A dry ditch with dense willow in it; and *Phragmites australis* abundant below that. Occasional meadowsweet was also recorded.
- 20.) A large garden pond stocked with exotic fish.. The sides are kept mostly free of vegetation; but there are many species growing in small patches or isolated individuals. The following species were recorded; brooklime; gipsywort; watercress; white water lily; common water [plantain; water mint
Juncus effusus; *Typha latifolia* and *T. angustifolia*.; purple loosestrife;
Juncus articulatus; *Carex otrubae*; pink water speedwell with *Carex flacca* and self-heal in the grass around it.
- 21.) Coarse grass dominated by a mosaic of *Arrhenatherum elatius*; *Dactylis glomerata* and *Holcus lanatus*; with frequent *Agrostis capillaris* and *Festuca rubra*. Creeping and spear thistle and nettles were also recorded in the site.
- 22.) Coarse grass dominated by a mosaic of *Arrhenatherum elatius*; *Dactylis glomerata* and *Holcus lanatus*; with frequent *Agrostis capillaris* and *Festuca rubra*. Creeping and spear thistle and nettles were also recorded in the site.
- 23.) Coarse grass dominated by a mosaic of *Arrhenatherum elatius*; *Dactylis glomerata* and *Holcus lanatus*; with frequent *Agrostis capillaris* and *Festuca rubra*. Creeping and spear thistle and nettles were also recorded in the site.

SP46b

- 1.) Mixed plantation of sycamore, ash, field maple, oak and larch. There is hawthorn and field maple in the understorey which is not very dense. The ground

flora is quite varied and has a good distribution without being dominant in any areas. It consists of frequent *Bromus ramosus* and *Brachypodium sylvaticum* with occasional wood avens, cow parsley, hedge woundwort, herb Robert, [herb bennet, *Luzula*, - PD] nettles and brambles. In places there is also frequent *Viola* sp., common sorrel, cleavers, garlic mustard and nipplewort.

2.) Semi natural woodland with an open ash and oak canopy; allowing the understorey of hawthorn elder and field maple to flourish. There is abundant ground flora of nettles; brambles and ground ivy. Frequent *Bromus ramosus* and *Brachypodium sylvaticum*; hedge wound wort and *Carex pendula* are present with occasional dog rose.

3.) The river Itchen here contains stands of *Carex riparia* and *Glyceria maxima*, [arrowhead - PD], with occasional great willowherb, marsh woundwort, meadowsweet and water chickweed along the bank sides where there is also frequent nettle [and guelder rose - PD]. There is also vegetation in the centre of the channel which has collapsed and causes a minor obstruction to the flow of the water.

4.) A small area of semi improved grassland with the river Itchen on the east; woodland to the north and an area of gorse scrub to the west and south. This contains a number of grasses the most abundant of which are *Festuca rubra* and *Dactylis glomerata*; with frequent *Cynosurus cristatus* and *Phleum pratense*. Occasional ladies bedstraw; black knapweed and agrimony were recorded; but the forb community was mostly of frequent creeping and spear thistle.

5.) An irregularly shaped area of dense scrub dominated by gorse; but towards the southern part of the area this is gradually replaced by brambles and dog rose.

6.) Coarse grassland with *Lolium perenne* and *Poa* sp. abundant and frequent *Cynosurus cristatus* and *Dactylis glomerata* also. There were also scattered creeping and spear thistle, [sorrel - PD] and nettles.

7.) A small pond which is surrounded by elm; elder and ash. The pool has sparse vegetation in it due to the degree of shading from the surrounding trees. It consists of brooklime and fools watercress with bittersweet and nettles at the sides. Just to the south of the area pool and the adjacent trees is a large patch of Japanese knotweed.

8.) A shallow pool adjacent to the River Itchen ; the water here is slow moving or still and possibly even dries up at times. The vegetation is dominated by nettles with occasional meadowsweet but the presence of nearby trees cast much shade over the water and little else is present. Some upright hedge parsley was found along the edges.

9.) A small area of dense scrub consisting of elm; hawthorn and elder. There are two mature trees ; one each of beech and elm.

10.) Coarse grassland with *Lolium perenne* and *Poa* sp. abundant and frequent *Cynosurus cristatus* and *Dactylis glomerata* also. There were also scattered creeping and spear thistle and nettles.

11.) Semi natural woodland with an open ash and oak canopy; allowing the understorey of hawthorn elder and field maple to flourish. There is abundant ground flora of nettles; brambles and ground ivy. Frequent *Bromus ramosus* and *Brachypodium sylvaticum* and hedge wound wort are present with occasional dog rose.

12.) This area has a zone lying between a semi natural woodland and semi improved grass which consists of a mosaic of standard oak trees; hawthorn and bramble scrub and open grass. This contains a number of grasses the most

abundant of which are *Festuca rubra* and *Dactylis glomerata*; with frequent *Cynosurus cristatus* and *Phleum pratense*.

13.) The grounds of Stoneythorpe Estate which have been left unmanaged for some time. There are a number of planted trees scattered over the grounds; and the grass has been left to grow rank. Although no direct access was gained it was possible to see patches of *Dactylis glomerata* and *Agrostis stolonifera* were present.

14.) A large chalk dump over a landfill site. It has been partially colonised by a grassland community; but there is still much bare ground present.

Arrhenatherum elatius and *Dactylis glomerata* are frequent; with occasional *Agrostis capillaris*. There was abundant bird's foot trefoil with this there was also frequent tall melilot; colt's foot; wild carrot; with occasional yellow wort; wild mignonette; stone parsley and some spikes of an orchid which could not be identified due to being dead. Occasional small and scattered hawthorn scrub is beginning to colonise.

15.) This site has much bare ground with no grasses visible; but was dominated by birds foot trefoil with occasional tall melilot; black medick; wild carrot; yellow wort; colts foot; self-heal; black knapweed; fairy flax; eyebright and some seeds of what is possibly kidney vetch. Towards the south of this area there are grasses present; with tall ruderals such as docks and thistles gradually replacing the community of the north. Other forbs are found here such as agrimony; teasel; plantains; tansy and garden escapes such as purple toadflax and large leaved evening primrose.

16.) A stand of dead wood possibly elm; with tall ruderal dominant on the ground.

17.) Bare ground and grassland community; dominated by *Arrhenatherum elatius* and *Agrostis capillaris*. Tall melilot is the most abundant forb; with occasional creeping and spear thistle; mugwort; prickly sow thistle; docks; ragwort; teasel; colts foot; plantains; creeping cinquefoil; bristly ox tongue; common centaury; red bartsia; and wild carrot. Occasional bladder campion is also recorded here.

18.) *Agrostis capillaris*; *Arrhenatherum elatius* and *Dactylis glomerata* dominate this area; with frequent creeping and spear thistle; tall melilot and mugwort; and occasional bladder campion.

19.) Coarse grass dominated by *Arrhenatherum elatius* and *Dactylis glomerata*;
With

SP46f

1.) Coarse grassland dominated by *Arrhenatherum elatius*; with *Phleum pratense*; *Dactylis glomerata* and *Hordeum secalinum*. There are frequent and scattered nettles; thistles and docks across the site.

2.) A brook containing abundant branched bur-reed; meadowsweet and wild angelica; with frequent teasel; great willowherb and hemlock along the banks. There are areas of semi improved grassland along the sides of the brook with *Arrhenatherum elatius*; *Holcus lanatus* and *Phleum pratense* abundant with occasional *Avena fatua*. Yarrow is frequent in this community; with no other forbs noted.

3.) Coarse grassland dominated by *Arrhenatherum elatius*; with *Phleum pratense*; *Dactylis glomerata* and *Hordeum secalinum*. There are frequent and scattered nettles; thistles and docks across the site.

4.) Coarse grassland dominated by *Arrhenatherum elatius*; with *Phleum pratense*; *Dactylis glomerata* and *Hordeum secalinum*. There are frequent and scattered nettles; thistles and docks across the site.

5.) Coarse grassland dominated by *Arrhenatherum elatius*; with *Phleum pratense*; *Dactylis glomerata* and *Hordeum secalinum*. There are frequent and scattered nettles; thistles and docks across the site.

SP46g

1.) This site had been cut shortly before the visit. It did appear that it may have been semi improved grassland however. Visited on 16/10/07 by MF: Semi-improved grassland confirmed.

2.) Dominated by *Arrhenatherum elatius*; *Holcus lanatus* and *Dactylis glomerata*; with frequent field bindweed; nettles and creeping thistle.

3.) A small horse grazed paddock; with *Dactylis glomerata*; *Lolium perenne*; *Hordeum secalinum* and *Phleum pratense*. There are occasional creeping and spear thistle; dock and creeping buttercup across the site; with occasional to locally frequent red bartsia; cut leaved cranesbill; self-heal; common cats ear; yarrow; great plantain and ragwort.

4.) Poor semi improved grass dominated by *Elytrigia repens*; with frequent *Arrhenatherum elatius*; *Holcus lanatus*; *Dactylis glomerata*; *Lolium multiflorum*; *Avena fatua* and *Phleum pratense*. It is used in part as a dump for organic farm waste; and is frequently disturbed. There are patches of tall ruderal vegetation including dock; nettle; creeping and spear thistle; prickly lettuce and hemlock. There is locally abundant cleavers also present.

5.) A small brook which is mostly completely overgrown with scrub; such as hawthorn; blackthorn and willow with occasional ash. The banks are covered by brambles and nettles.. Where the water is open to light it contains *Phalaris arundinacea*; *Typha latifolia*; great willowherb and bittersweet.

6.) An area of dense scrub with occasional less dense areas which contain bare ground and small areas of grass communities. *Brachypodium sylvaticum* was frequent with wild carrot; devils bit scabious; self-heal; black knapweed; centaury; mouse-ear hawkweed; yellow wort; fairy flax; agrimony and *Viola* sp.

7.) A ditch by a quarry road which contains abundant *Phragmites australis*.

8.) An outlet from the quarry kiln; which contains a *Phragmites australis* filter bed.

9.) A small area of ash dominated woodland; with dense hawthorn scrub below.

10.) Coarse grassland dominated by *Arrhenatherum elatius*; with *Dactylis glomerata*; and *Agrostis capillaris*. There are docks; nettles; ragwort and wild carrot found frequently across the site.

Visited on 17/10/07 by MF: Area continues to be disturbed; evidence of vehicle movements, tipping of quarry waste areas of bare ground and two new shallow pools have been created: one unvegetated, the other deliberately planted with species preferring water margins.

11.) Elm regeneration; with dead elm wood still present. This is taking place under occasional ash and oak wood. There is a small dry pond in the east side of the site; surrounded by willow and hawthorn; with abundant fool's watercress over the site.

12.) Appears to be an improved field but the landowner reports that it contains cowslips and other flowering plants.

13.) Appears to be an improved field but the landowner reports that it contains cowslips and other flowering plants.

14.) Appears to be an improved field but the landowner reports that it contains cowslips and other flowering plants.

15.) Appears to be an improved field but the landowner reports that it contains cowslips and other flowering plants.

16.) Pond covered in duck weed; with occasional *Typha latifolia*; branched bur-reed and *Schoenoplectus lacustris* around the edges. There is much foals watercress growing into the water from the sides. Visited on 16/10/07 by MF: Moat has been dredged and cleaned of scrub along SE facing side. At time of visit reeds were starting to establish along banks, however some trees and a little scrub still remain and may re-establish if not managed. Landowner has stocked with fish (including some exotic species -- goldfish, koi carp) and claims regular moorhen, heron and kingfisher (non-nesting), and a visit from a cormorant.

17.) Dry section of old moat; which is completely covered by dense scrub. Visited on 16/10/07 by MF: Scrub cleared. Now grass lawn with scrub either side.

18.) Dominated by *Arrhenatherum elatius*; *Holcus lanatus* and *Dactylis glomerata*; with frequent field bindweed; nettles and creeping thistle.

19.) Appears to be an improved field but the landowner reports that it contains cowslips and other flowering plants.

20.) An area of newly established tall ruderal containing abundant broad-leaved dock, curled dock, wild carrot, black knapweed, *Phragmites communis*, *Agrostis stolonifera*, *Festuca rubra*, field horsetail, bulbous buttercup, creeping buttercup, oxeye daisy, beaked hawk's-beard, creeping thistle, spear thistle, and ribwort plantain. The site also contains frequent *Festuca ovina*, *Dactylis glomerata*, *Poa trivialis*, *Poa angustifolia*, common centaury, cut-leaved crane's-bill, ribbed melilot, common ragwort and oxford ragwort. Occasional field mouse-ear, common mouse-ear, nipplewort, common mallow, restharrow, hedge woundwort and self-heal are also associated with the area. The site is noted for it's entomological diversity, and insectivorous birds regularly forage amongst the plants.

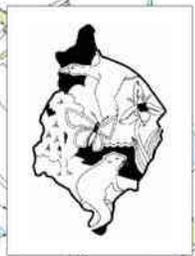
21.) An area of open scattered scrub dominated by hawthorn and dog rose, with abundant black knapweed, wild carrot, ragwort, oxford ragwort, field horsetail, cowslip, fairy flax, glaucous sedge, common sedge, creeping cinquefoil, *Festuca rubra*, oxeye daisy, scentless mayweed and bramble. The site also contains frequent black medick, hop trefoil, common centaury, yellow wort, creeping thistle, woolly thistle, *Agrostis stolonifera*, *Brachypodium sylvaticum*, *Catapodium rigidum*, and *Briza media*. Common spotted-orchid, common twayblade, and greater butterfly orchid are occasionally encountered in the area. The area has considerable ornithological interest and an abundance of suitable nesting sites within the more dense tracts of scrub. The topography of the site is highly variable, it has been created over a number of years from the overburden of the neighbouring quarry, and is therefore recently colonised calcareous mine spoil. The southern part of the site is of particular entomological interest due to the high south facing slopes of the spoil.

22.) An area of species rich calcareous grassland with an underlying substrate of calcareous quarry mine spoil. The site contains abundant fairy flax, common eyebright, black knapweed, black medick, dog rose, ribbed melilot, common bird's-foot-trefoil, *Arrhenatherum elatius*, *Deschampsia caespitosa*, *Festuca rubra*, *Holcus lanatus*, *Agrostis stolonifera*, oxeye daisy, scentless mayweed, creeping cinquefoil, coltsfoot, creeping thistle, teasel and rosebay willowherb. Yellow wort, common twayblade, common spotted-orchid, greater butterfly orchid, agrimony and cowslips are all frequently encountered in the area. Bee orchids can also be found in the area, although their numbers are reported to be highly variable between years. The site is of particular entomological interest, with bare ground and steep sided flanks providing a wealth of nesting sites for ground dwelling insect species.

23.) An area of open scattered scrub dominated by hawthorn and dog rose, with abundant black knapweed, wild carrot, ragwort, oxford ragwort, field horsetail,

cowslip, fairy flax, glaucous sedge, common sedge, creeping cinquefoil, *Festuca rubra*, oxeye daisy, scentless mayweed and bramble. The site also contains frequent black medick, hop trefoil, common centaury, yellow wort, creeping thistle, woolly thistle, *Agrostis stolonifera*, *Brachypodium sylvaticum*, *Catapodium rigidum*, and *Briza media*. Common spotted-orchid, common twayblade, and greater butterfly orchid are occasionally encountered in the area. The area has considerable ornithological interest and an abundance of suitable nesting sites within the more dense tracts of scrub. The topography of the site is highly variable, it has been created over a number of years from the overburden of the neighbouring quarry, and is therefore recently colonised calcareous mine spoil. The southern part of the site is of particular entomological interest due to the high south facing slopes of the spoil.

24.) An area of broad-leaved woodland with an underlying substrate of calcareous quarry mine spoil. The site is dominated by sycamore and ash standards, and has occasional Japanese larch, cherry and oak. The understorey contains frequent ivy, wood avens, betony, elder, cleavers, nettle, bramble, *Brachypodium sylvaticum* and daisy. The area also contains occasional *Calystegia* spp., *Festuca rubra*, yellow wort, black knapweed, hawthorn, common cats-ear, creeping cinquefoil, cowslips, self-heal and dog rose. Badger sets dominate the southern part of the site.



Stratford-upon-Avon



Welcombe

Bishopston

River Avon North

STRATFORD-UPON-AVON

Shottery Fields

Tiddington

OLD STRATFORD AND DRAYTON CP

West of Shottery

STRATFORD-UPON-AVON CP

Racecourse & River Avon South

Alveston Hill

LUDDINGTON CP

Bridgetown

MILCOTE CP

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Stratford-upon-Avon Local Sites

 Potential Local Wildlife Site (pLWS/SINC)

 Local Wildlife Site (LWS/SINC)

 Rejected potential Local Wildlife Site

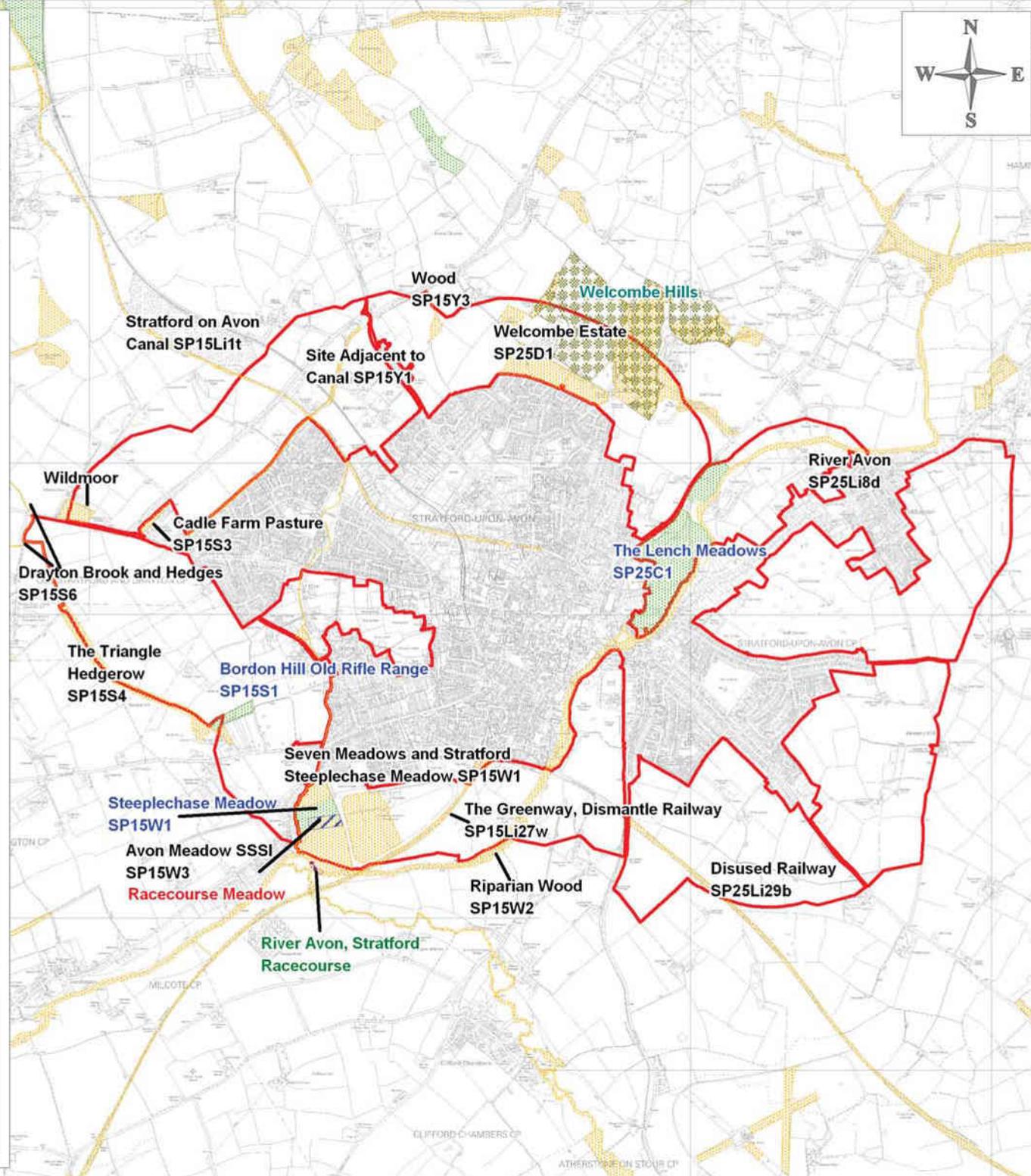
 Destroyed Local Wildlife Site

 SSSI

 RIGS

 LNR

NB River Avon has now been designated as Linear LWS/SINC and is awaiting digitisation in mid to late 2010.



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Stratford upon Avon - HBA

Phase I Habitat Survey

Habitat Types

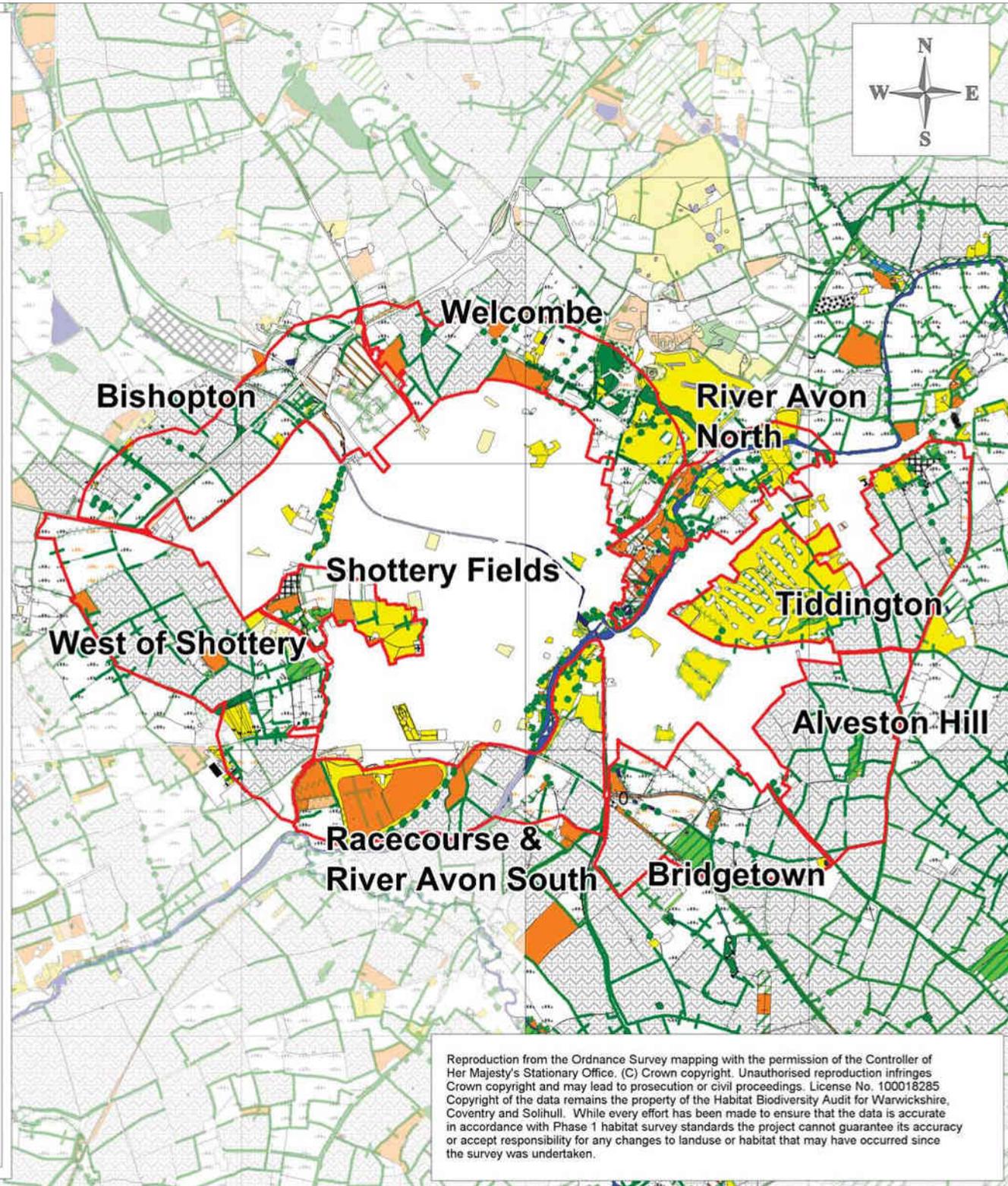
	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		

NB Data with a survey date before 2005 is displayed with muted tones



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Tiddington

Area: 158.7 hectares



Phase I Habitat Survey

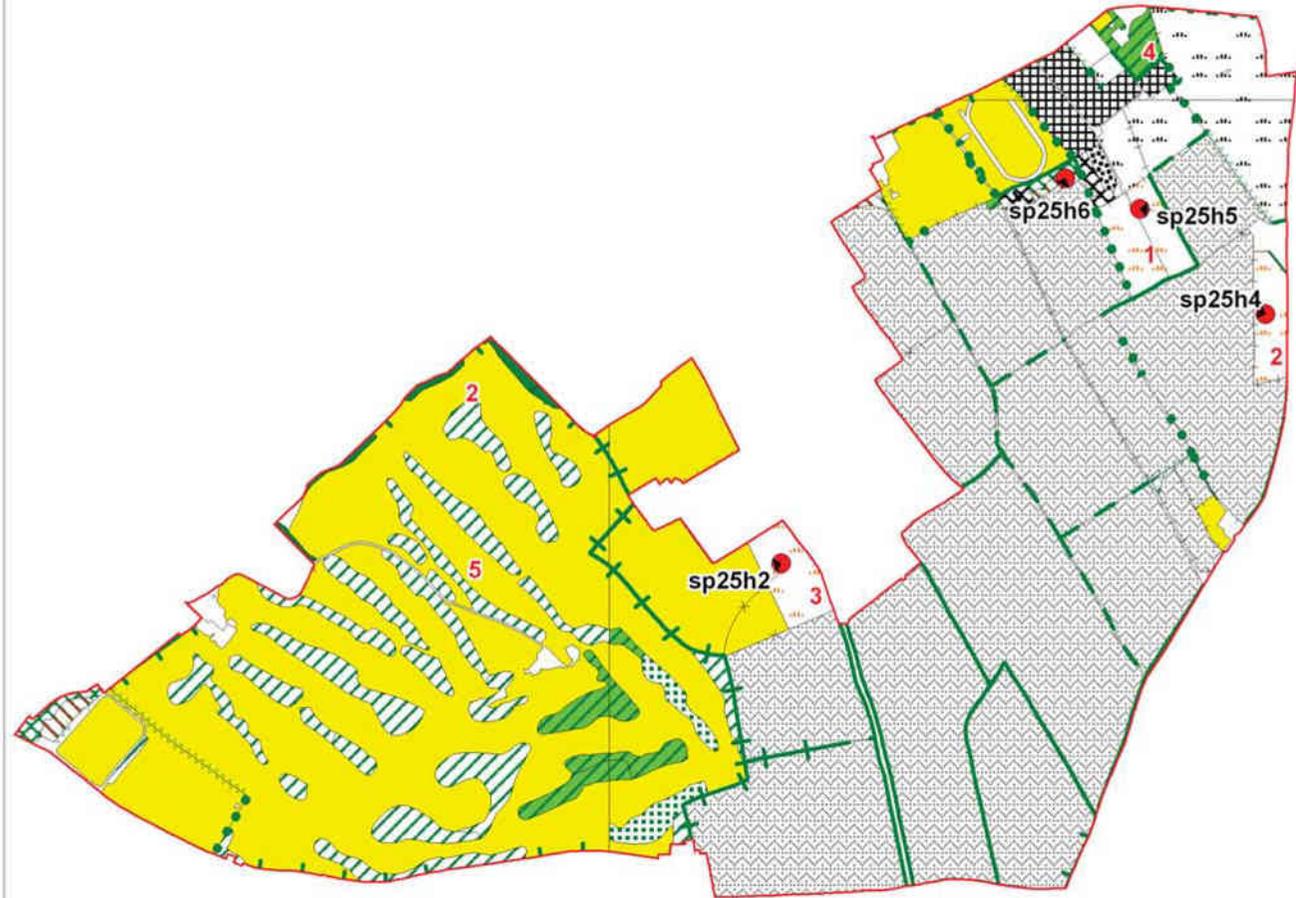
Habitat Types

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	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
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	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
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	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
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	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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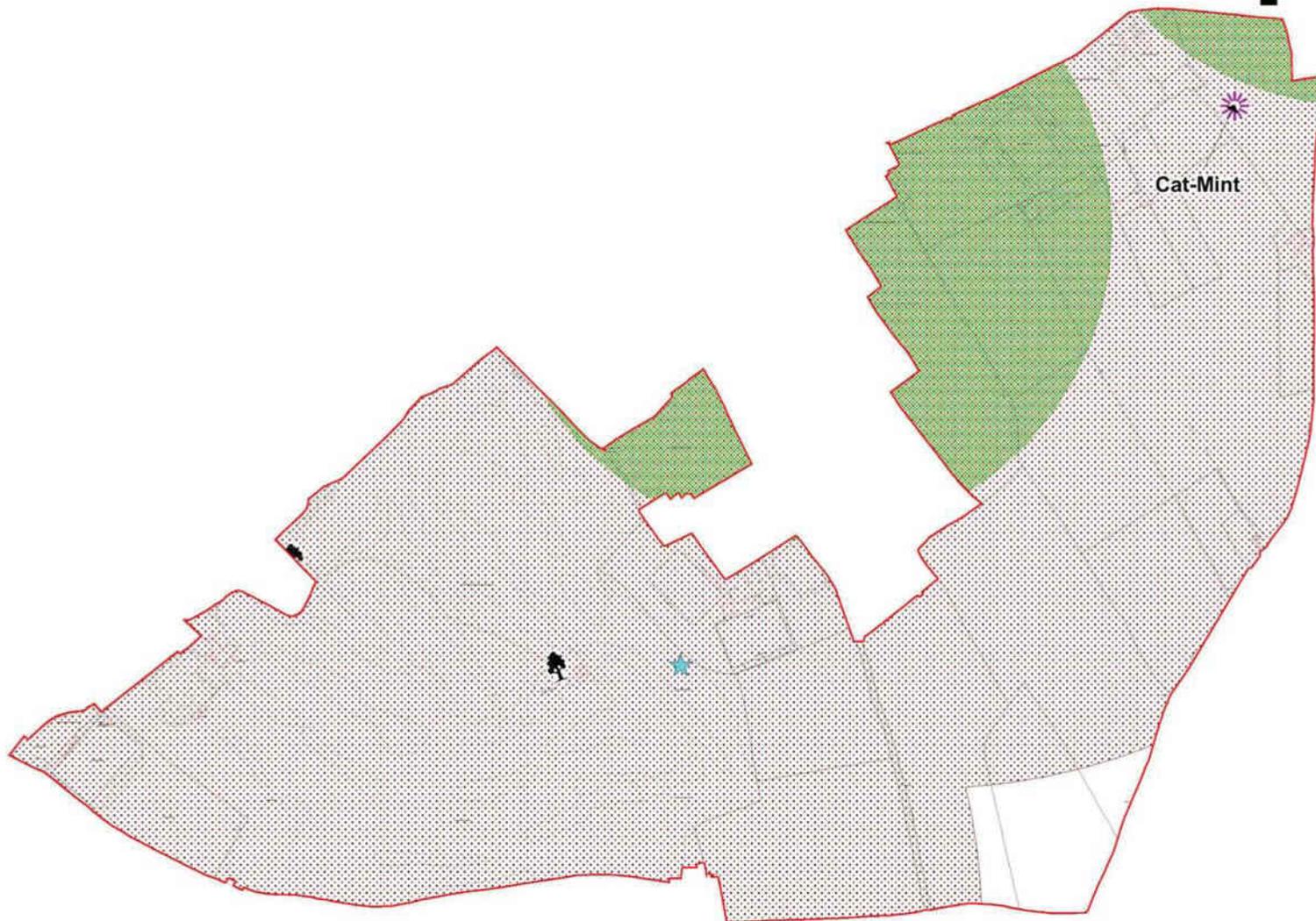


Tiddington

Species

-  Buffer zone for otter, water vole or white-clawed crayfish
-  Buffer zone for great crested newt, adder, grass snake or slow worm
-  Buffer zone for bat

-  Brown Hare
-  Reptile/amphibian
-  Barn Owl
-  BAP Butterfly
-  Black poplar
-  Veteran tree
-  County rare plant



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Alveston Hill

Area: 105.5 hectares



Phase I Habitat Survey

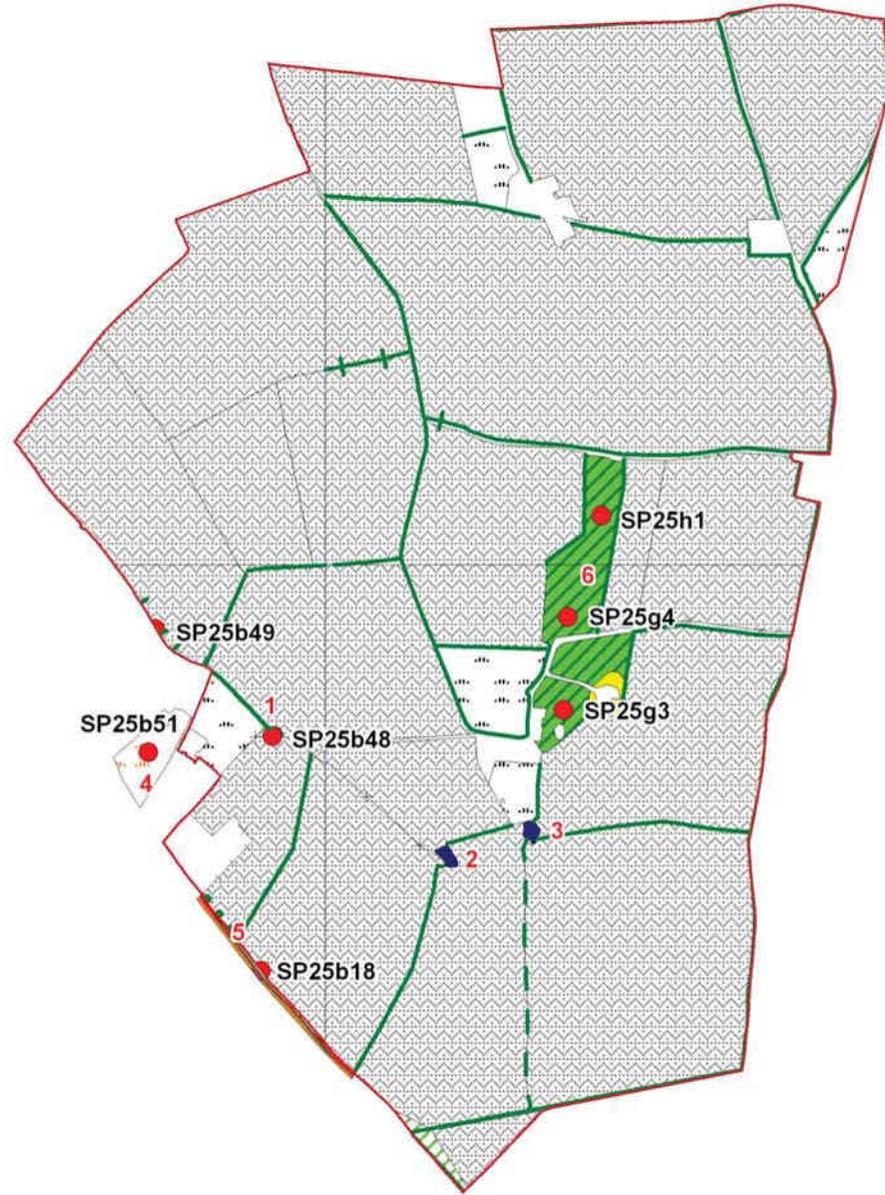
Habitat Types

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	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
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	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		

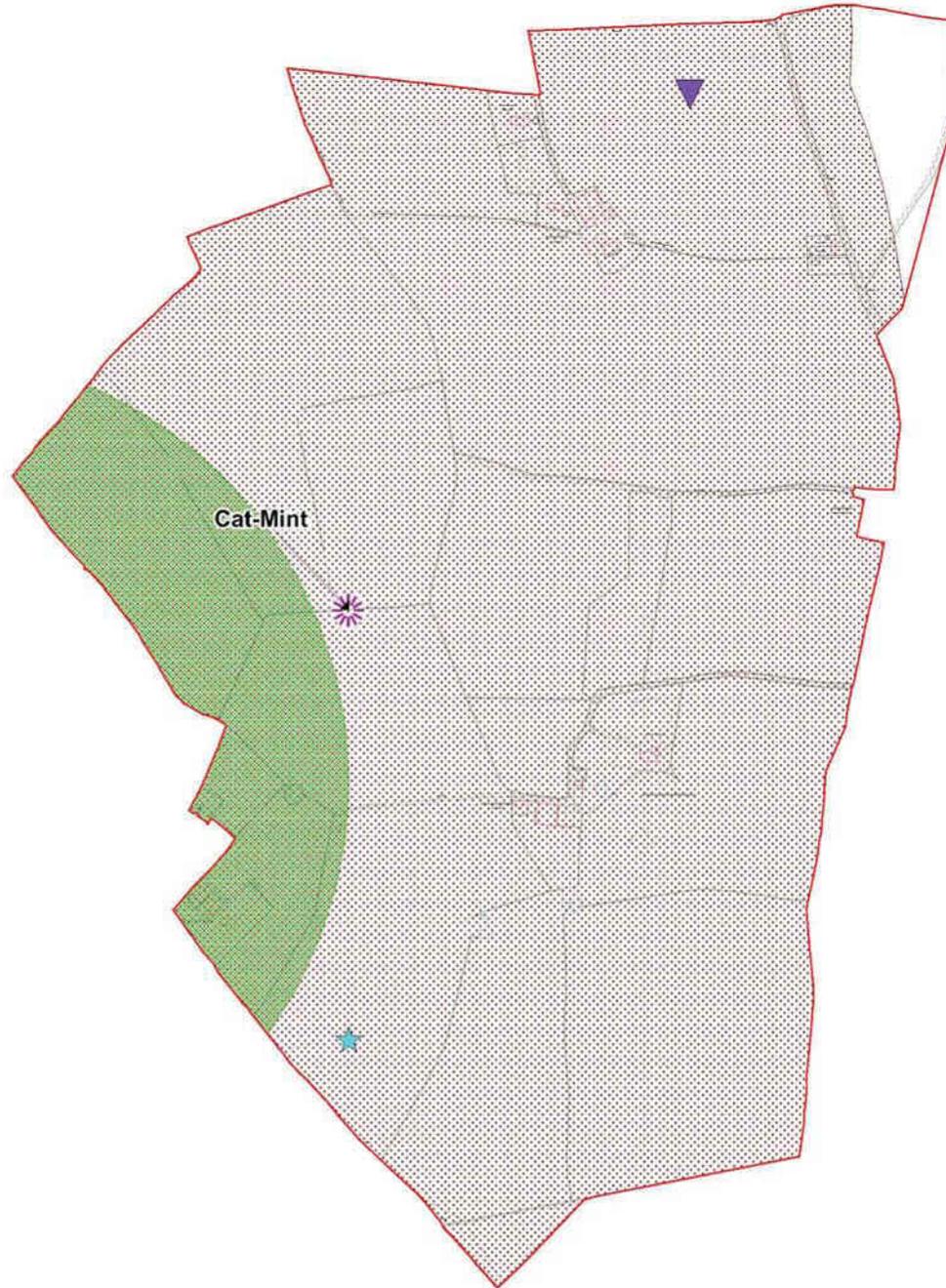


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Alveston Hill

Species

-  Buffer zone for otter, water vole or white-clawed crayfish
-  Buffer zone for great crested newt, adder, grass snake or slow worm
-  Buffer zone for bat
-  Brown Hare
-  Reptile/amphibian
-  Barn Owl
-  BAP Butterfly
-  Black poplar
-  Veteran tree
-  County rare plant





Bridgetown

Area: 113.5 hectares



Phase I Habitat Survey

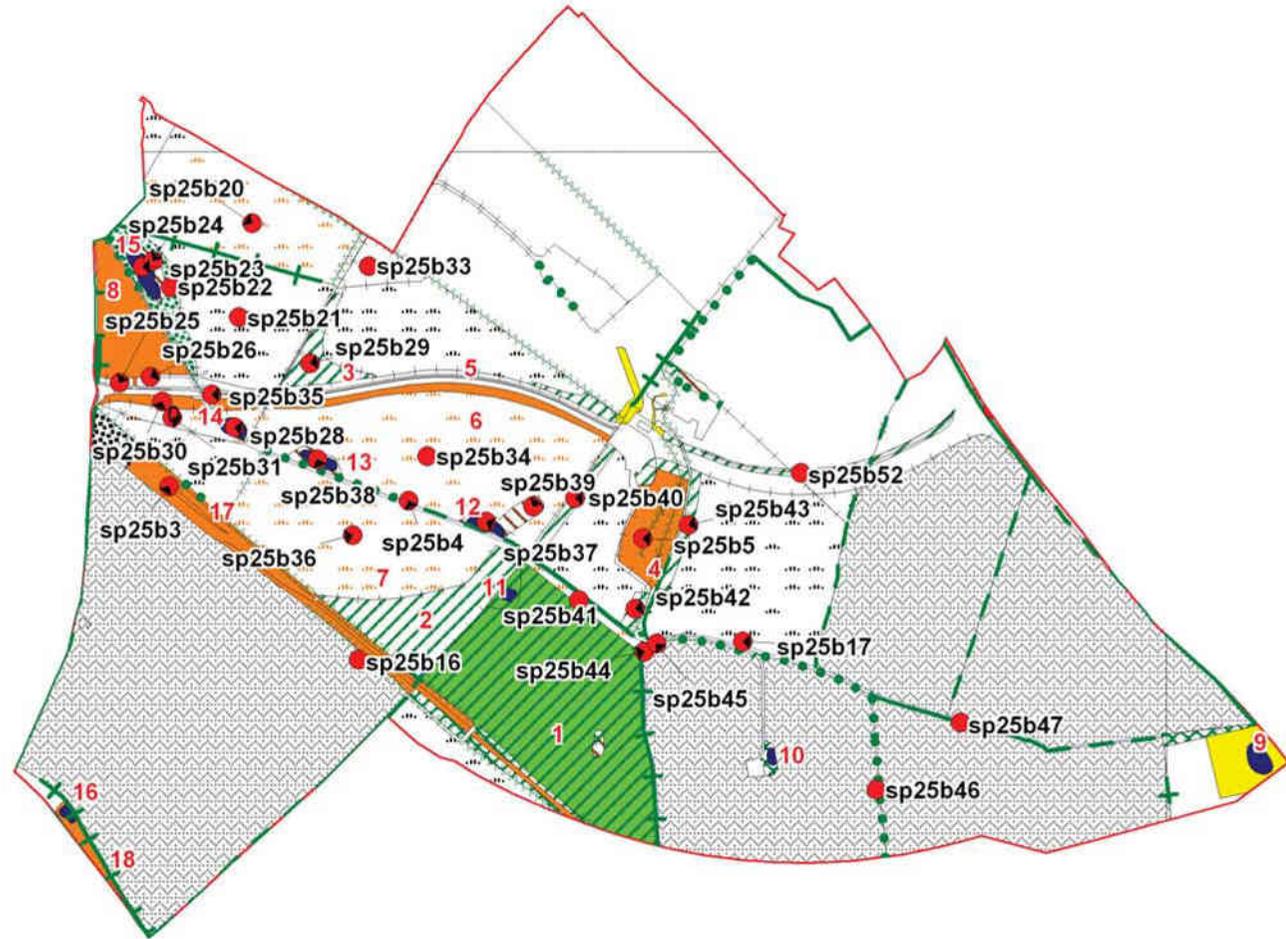
Habitat Types

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	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
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	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
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	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
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	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		

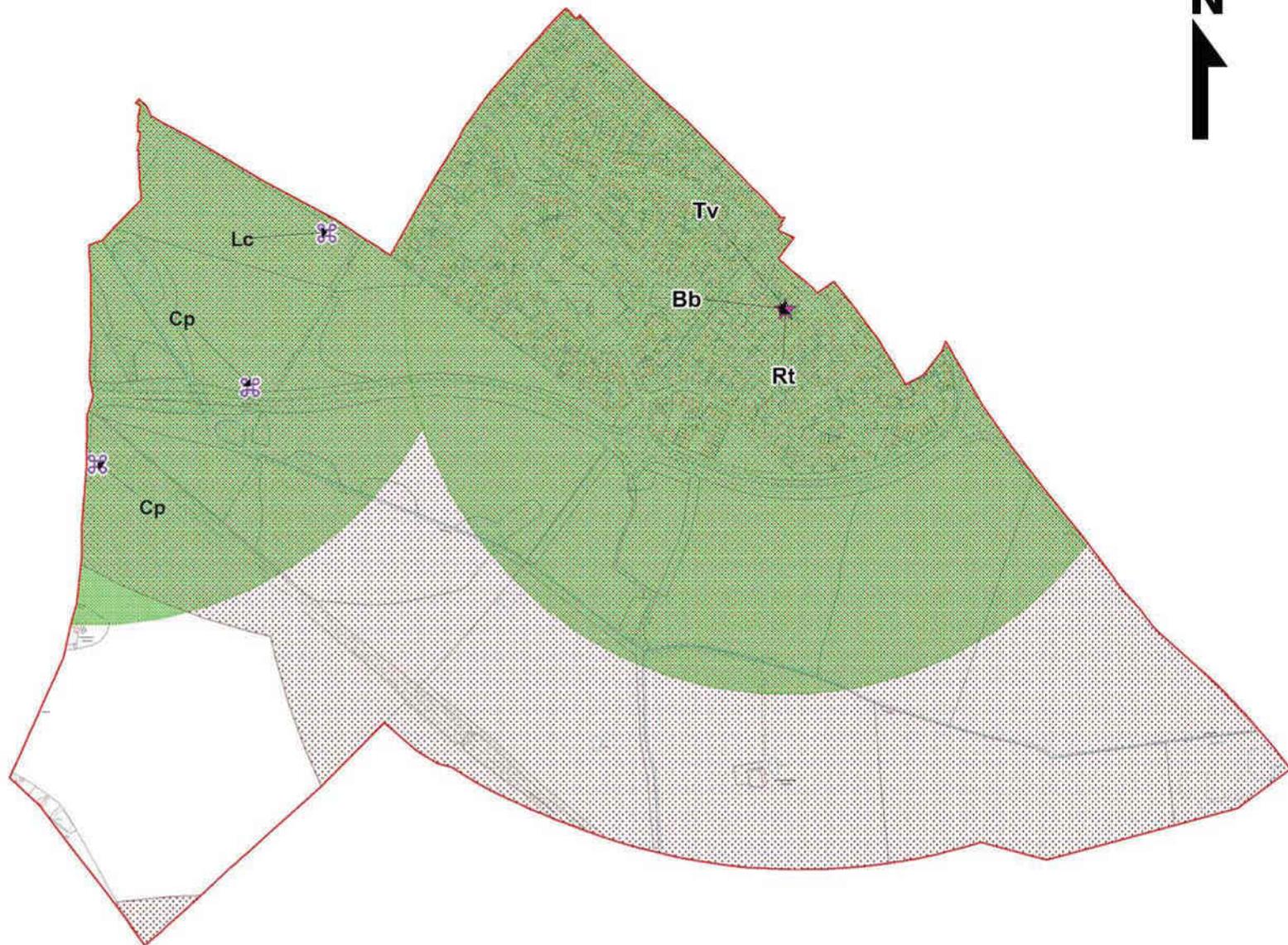


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Bridgetown

Species

-  Buffer zone for otter, water vole or white-clawed crayfish
-  Buffer zone for great crested newt, adder, grass snake or slow worm
-  Buffer zone for bat
-  Brown Hare
-  Reptile/amphibian
-  Barn Owl
-  BAP Butterfly
-  Black poplar
-  Veteran tree
-  County rare plant



Warwickshire Biological Records Centre
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Racecourse & River Avon South

Area: 136.8 hectares



Phase I Habitat Survey

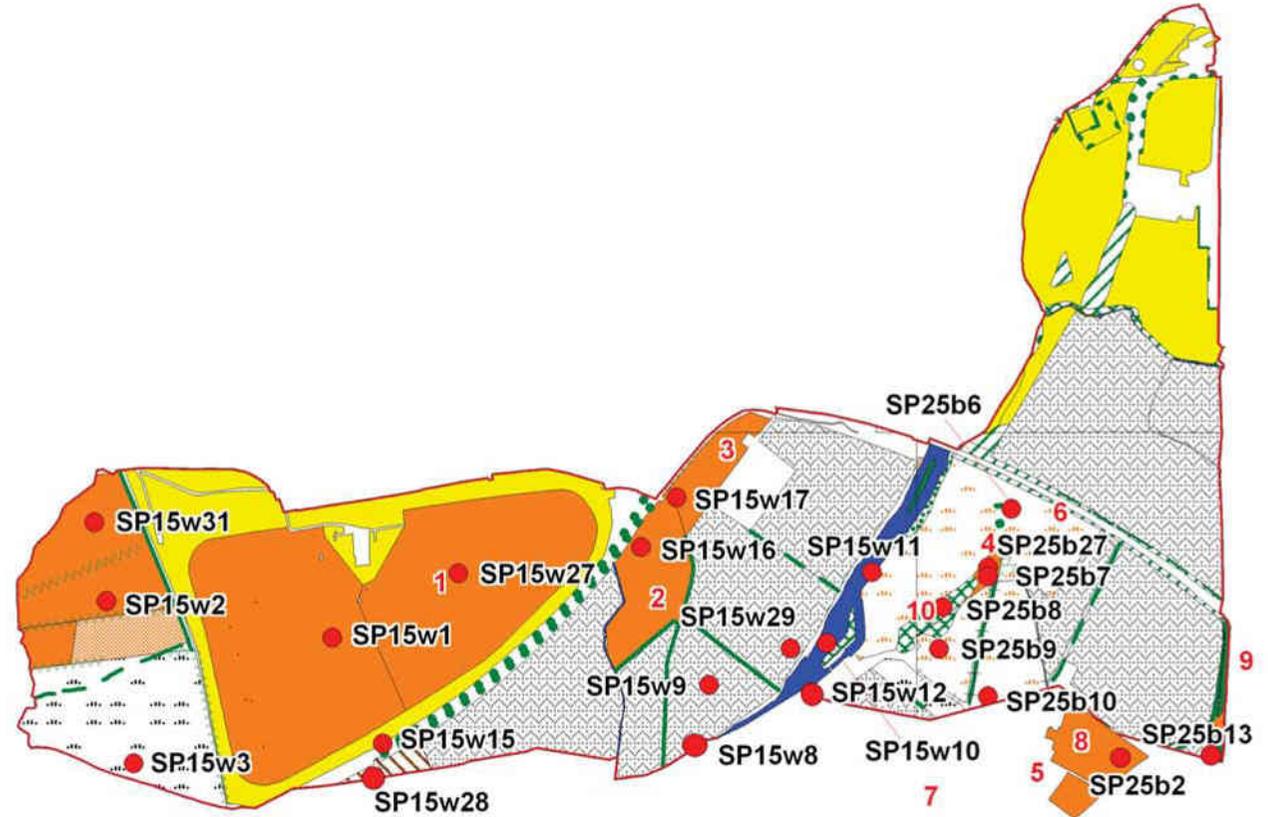
Habitat Types

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	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
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	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
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	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



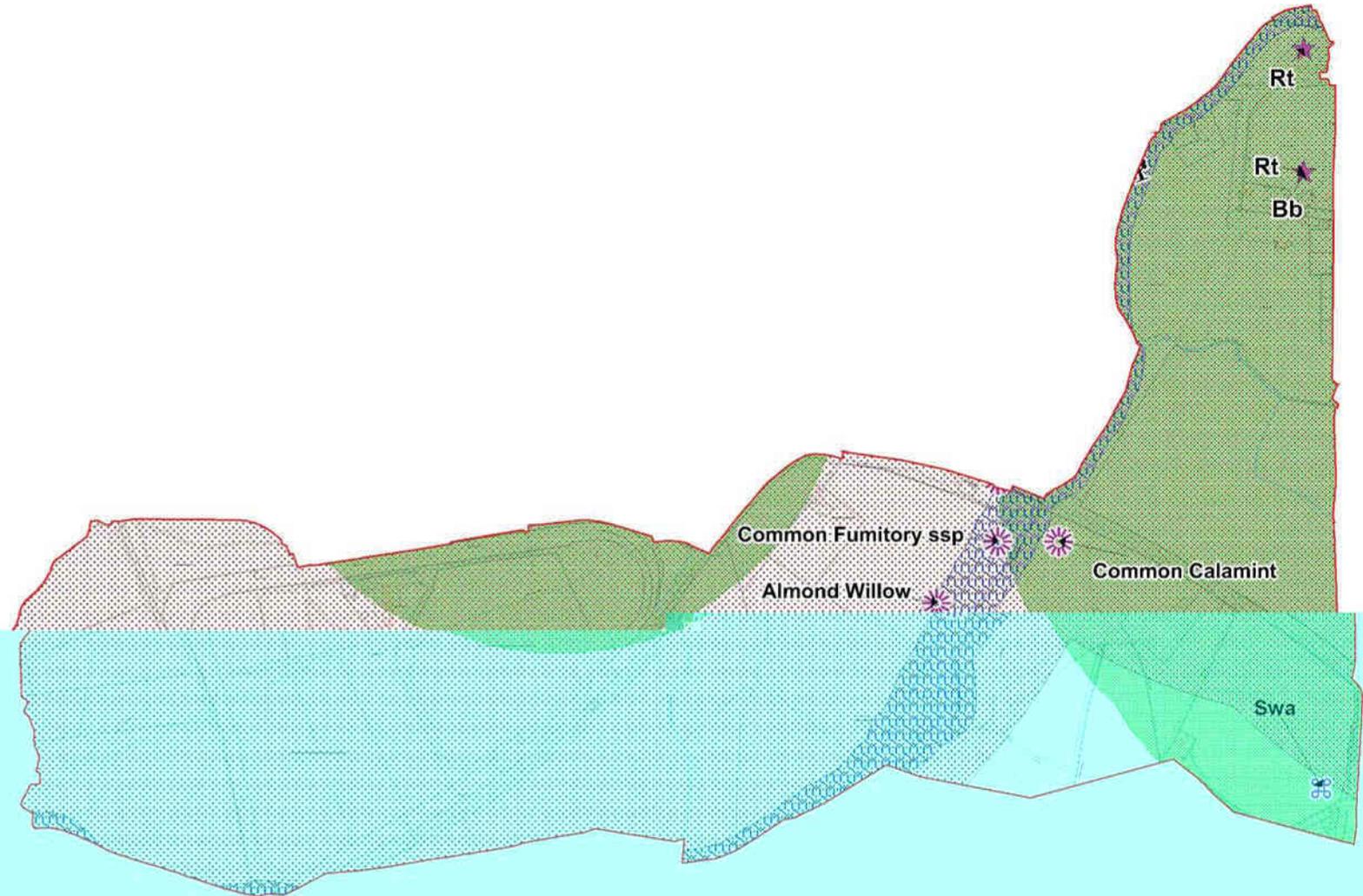
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Racecourse & River Avon South

Species

-  Buffer zone for otter, water vole or white-clawed crayfish
-  Buffer zone for great crested newt, adder, grass snake or slow worm
-  Buffer zone for bat
-  Brown Hare
-  Reptile/amphibian
-  Barn Owl
-  BAP Butterfly
-  Black poplar
-  Veteran tree
-  County rare plant



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West of Shotton

Area: 186.3 hectares



Phase I Habitat Survey

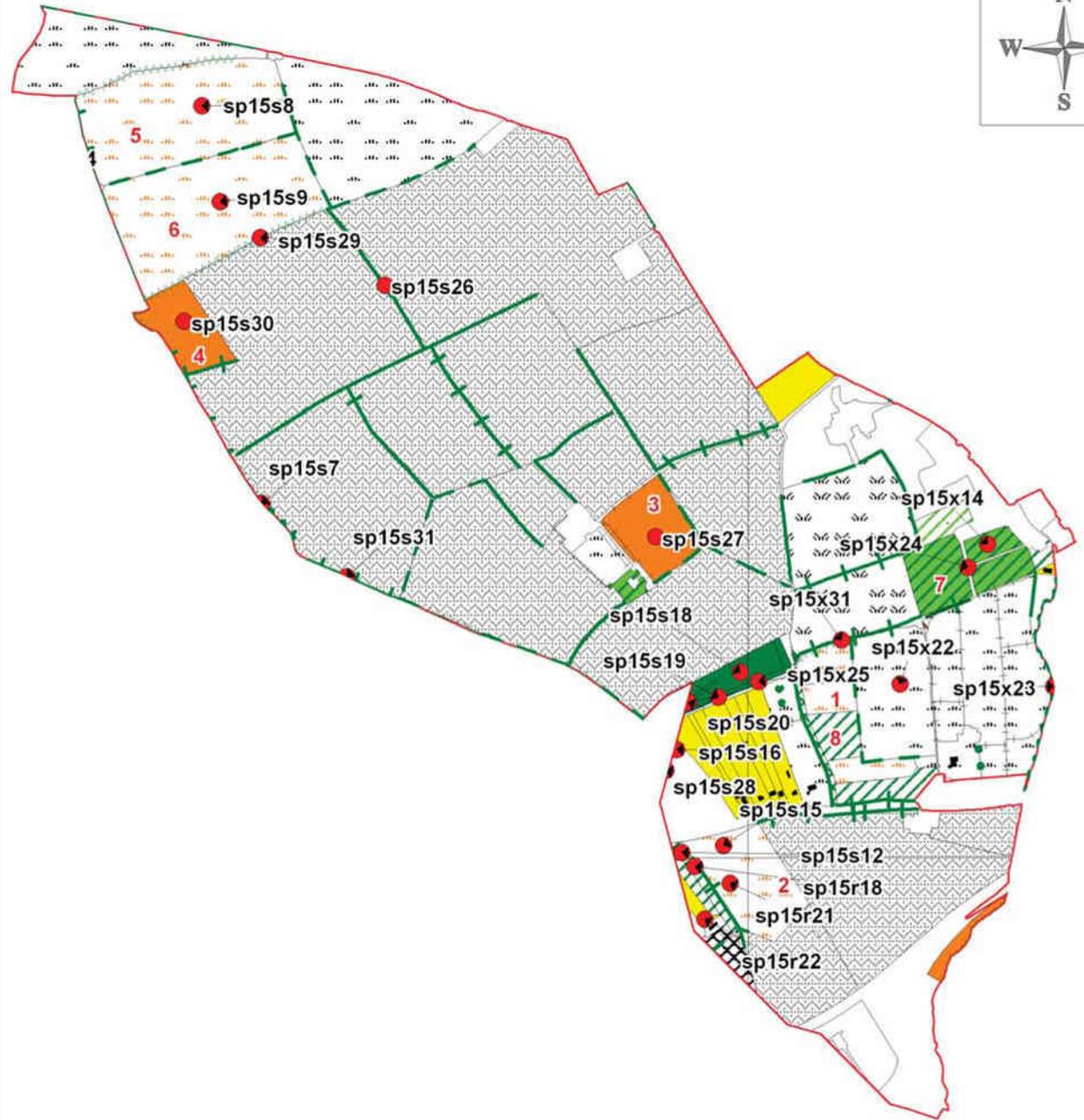
Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
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	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
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	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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**WARWICKSHIRE
BIOLOGICAL
RECORDS CENTRE**



West of Shottery

Species

 Buffer zone for otter, water vole or white-clawed crayfish

 Buffer zone for great crested newt, adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

 Barn Owl

 BAP Butterfly

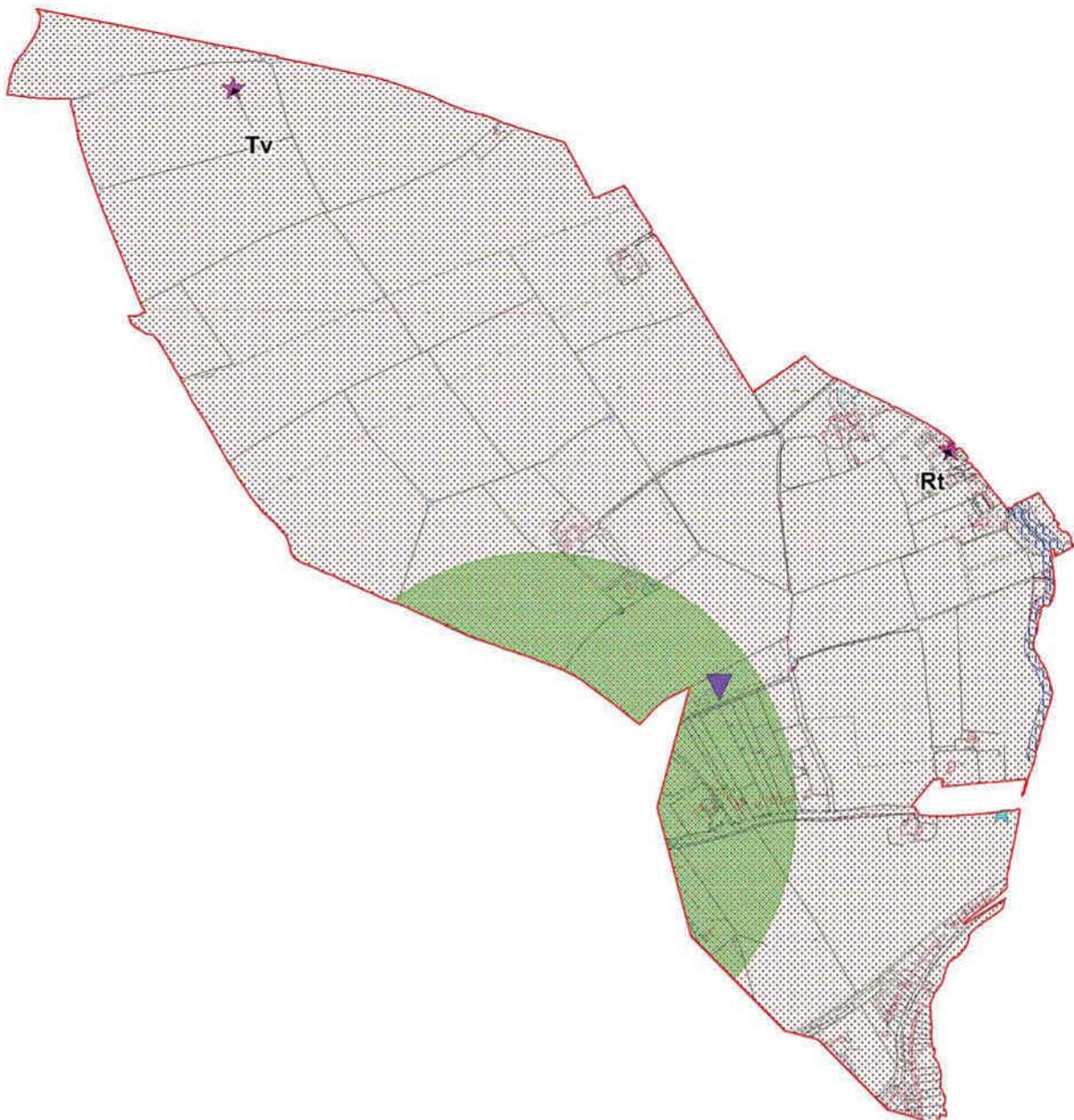
 Black poplar

 Veteran tree

 County rare plant

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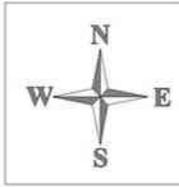
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Shottery Fields

Area: 40.2 hectares



Phase I Habitat Survey

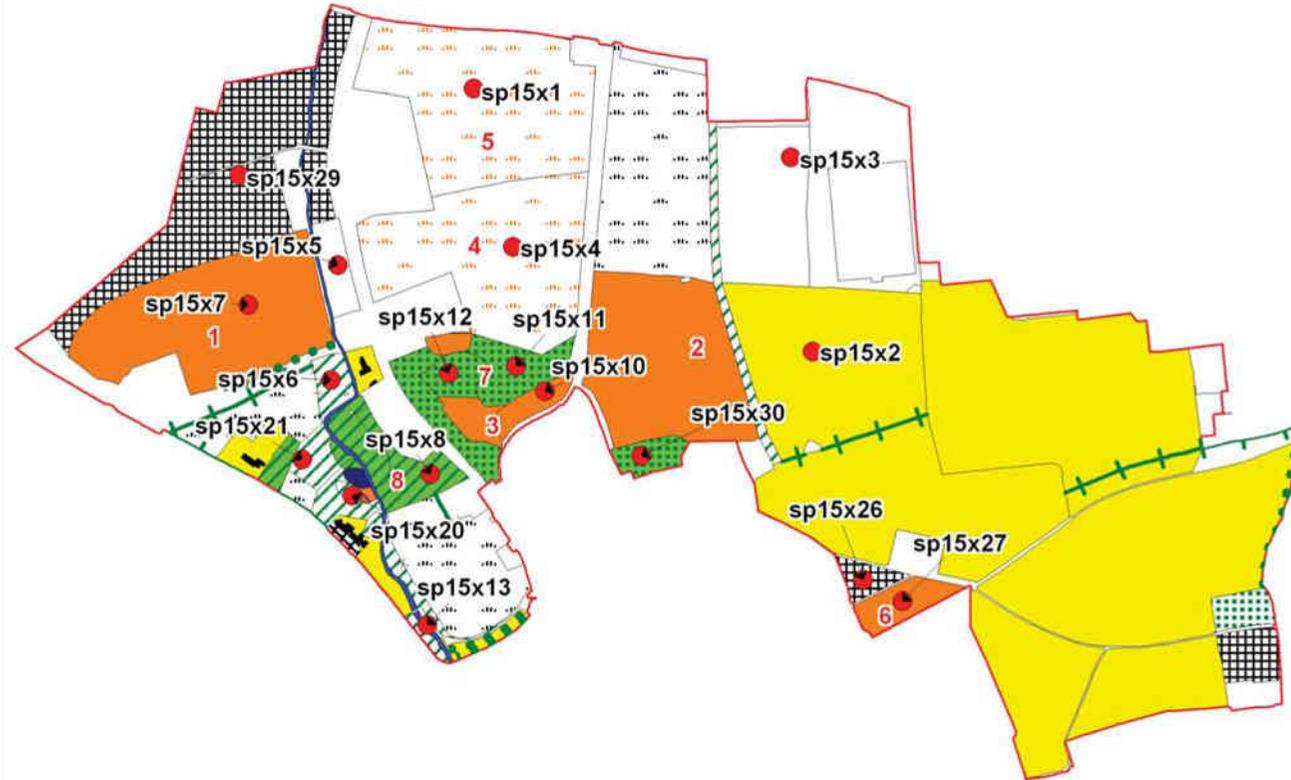
Habitat Types

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	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
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	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



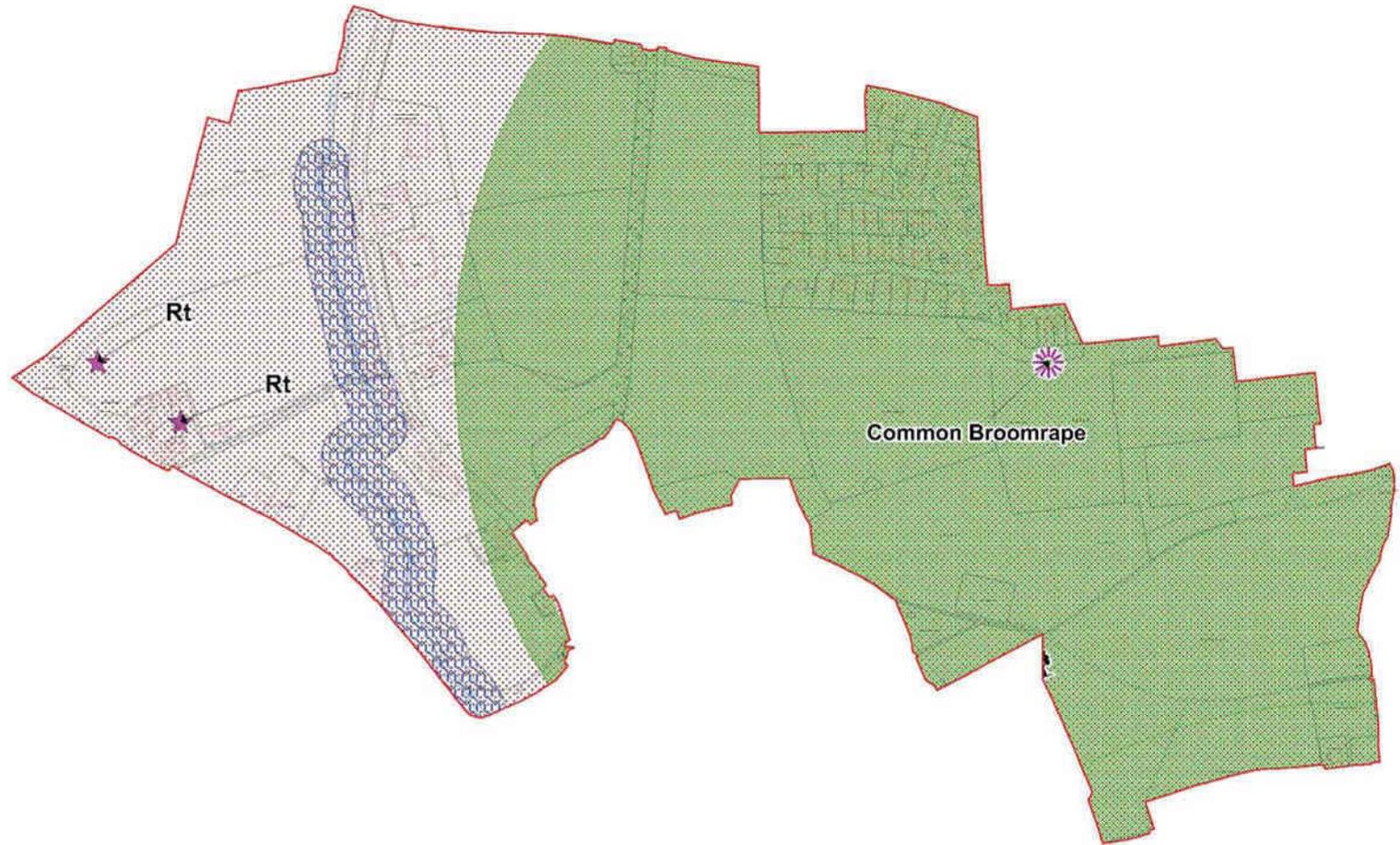
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Shottery Fields

Species

-  Buffer zone for otter, water vole or white-clawed crayfish
-  Buffer zone for great crested newt, adder, grass snake or slow worm
-  Buffer zone for bat

-  Brown Hare
-  Reptile/amphibian
-  Barn Owl
-  BAP Butterfly
-  Black poplar
-  Veteran tree
-  County rare plant



Warwickshire Biological Records Centre
Museum Field Services
The Butts
Warwick
CV34 4SS
Tel: (01926) 418060
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Bishopton

Area: 148 hectares



Phase I Habitat Survey

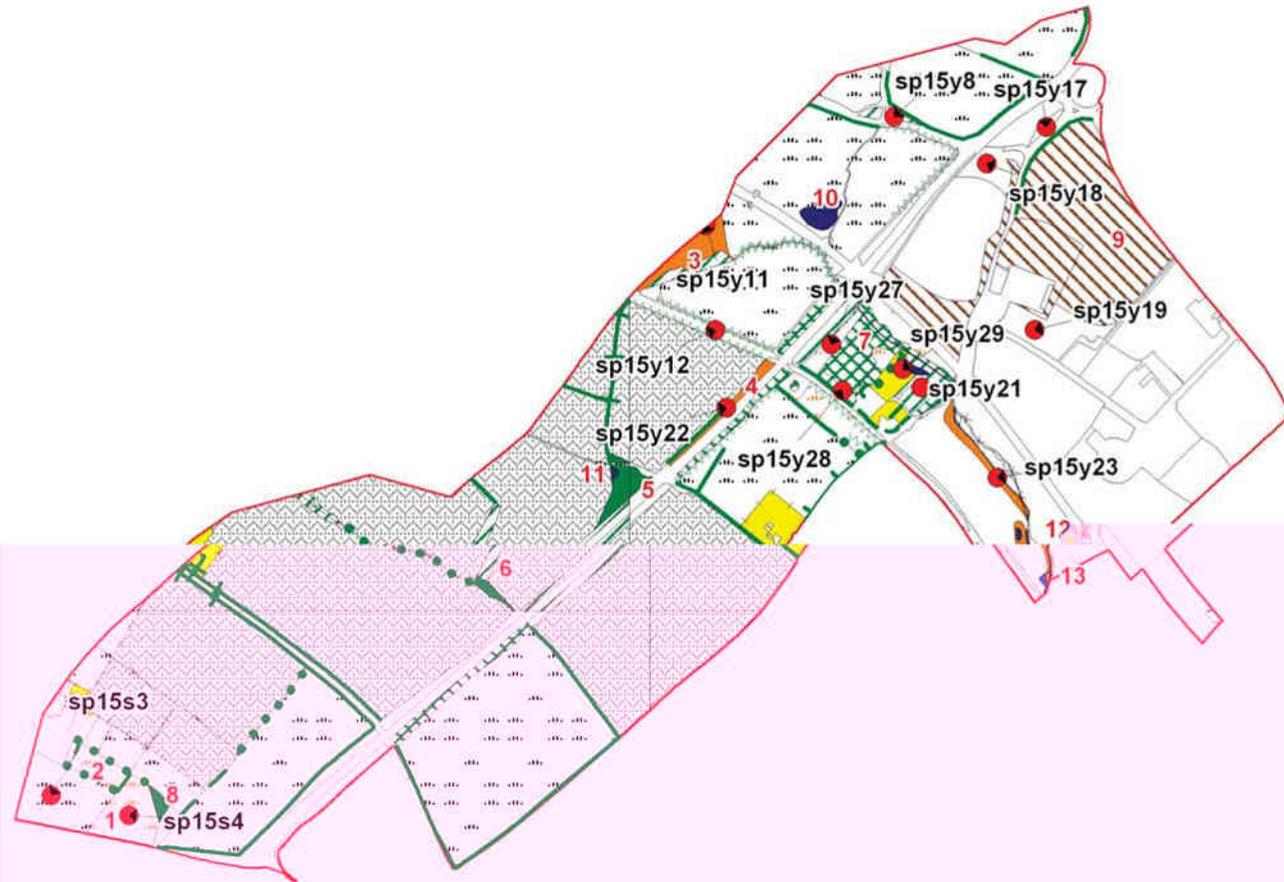
Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently-tilled woodland)		I29 (Keruse'hp)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		

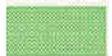


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Bishopton

Species

 Buffer zone for otter, water vole or white-clawed crayfish

 Buffer zone for great crested newt, adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

 Barn Owl

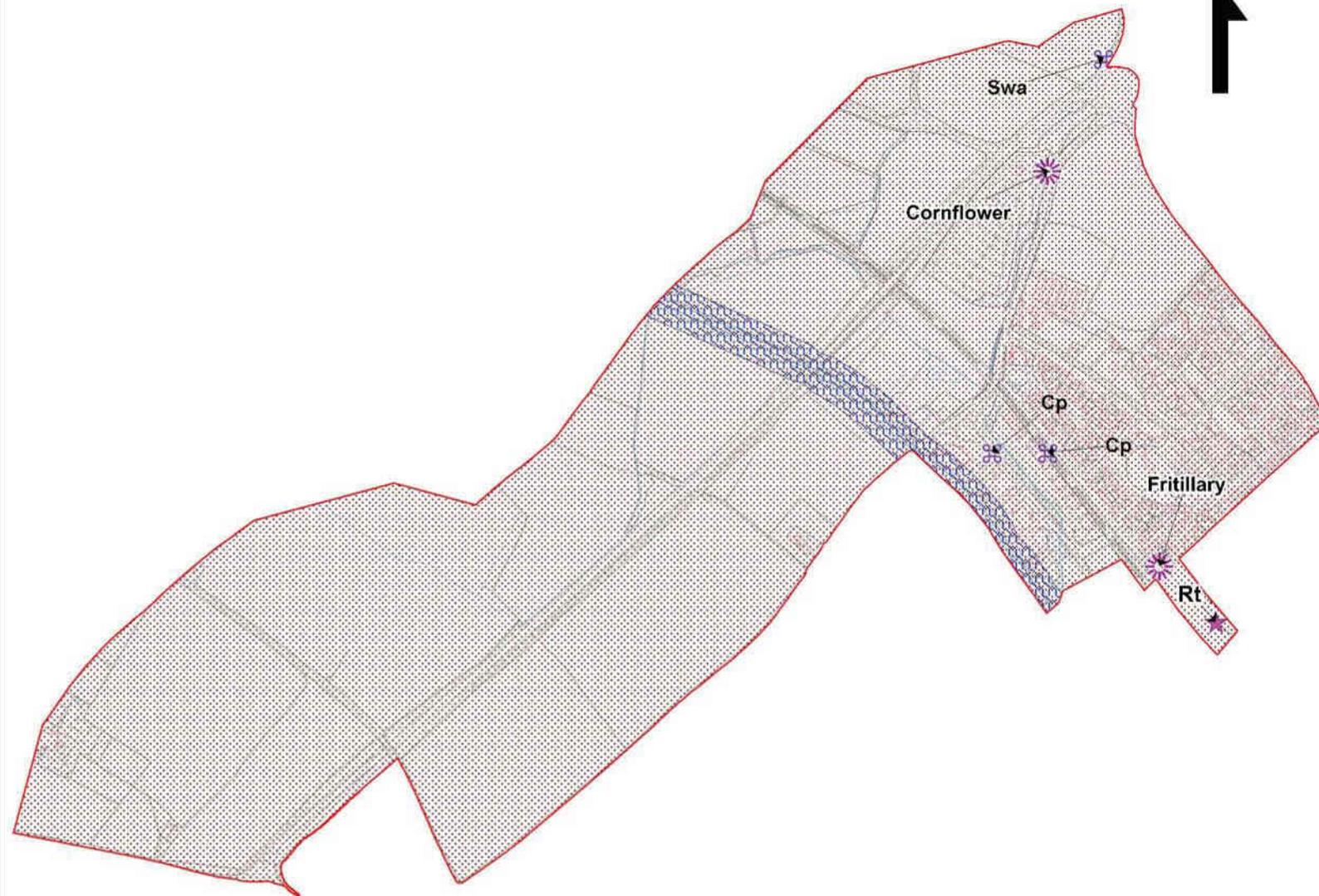
 BAP Butterfly

 Black poplar

 Veteran tree

 County rare plant

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Welcombe

Area: 141.7 hectares



Phase I Habitat Survey

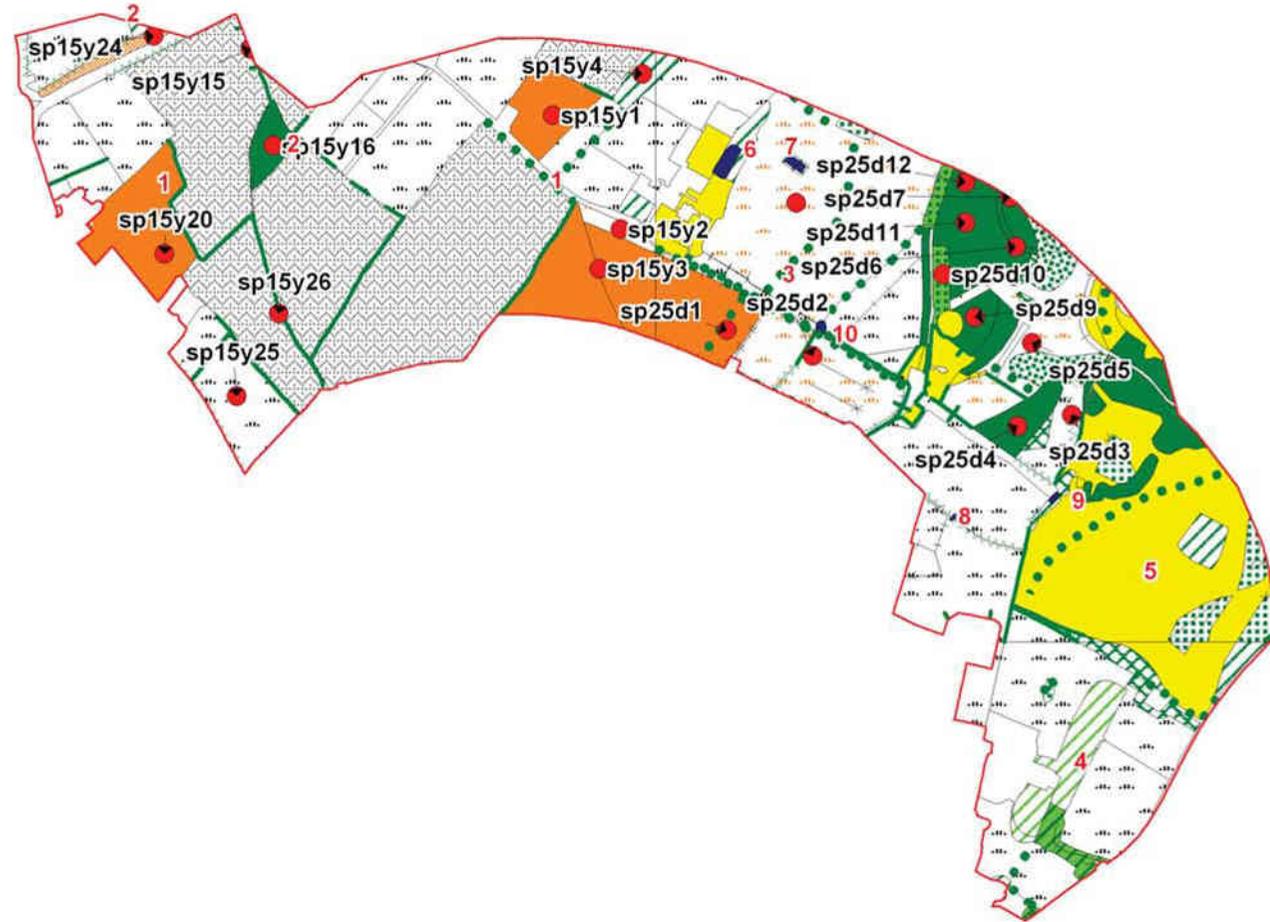
Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
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	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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Welcombe

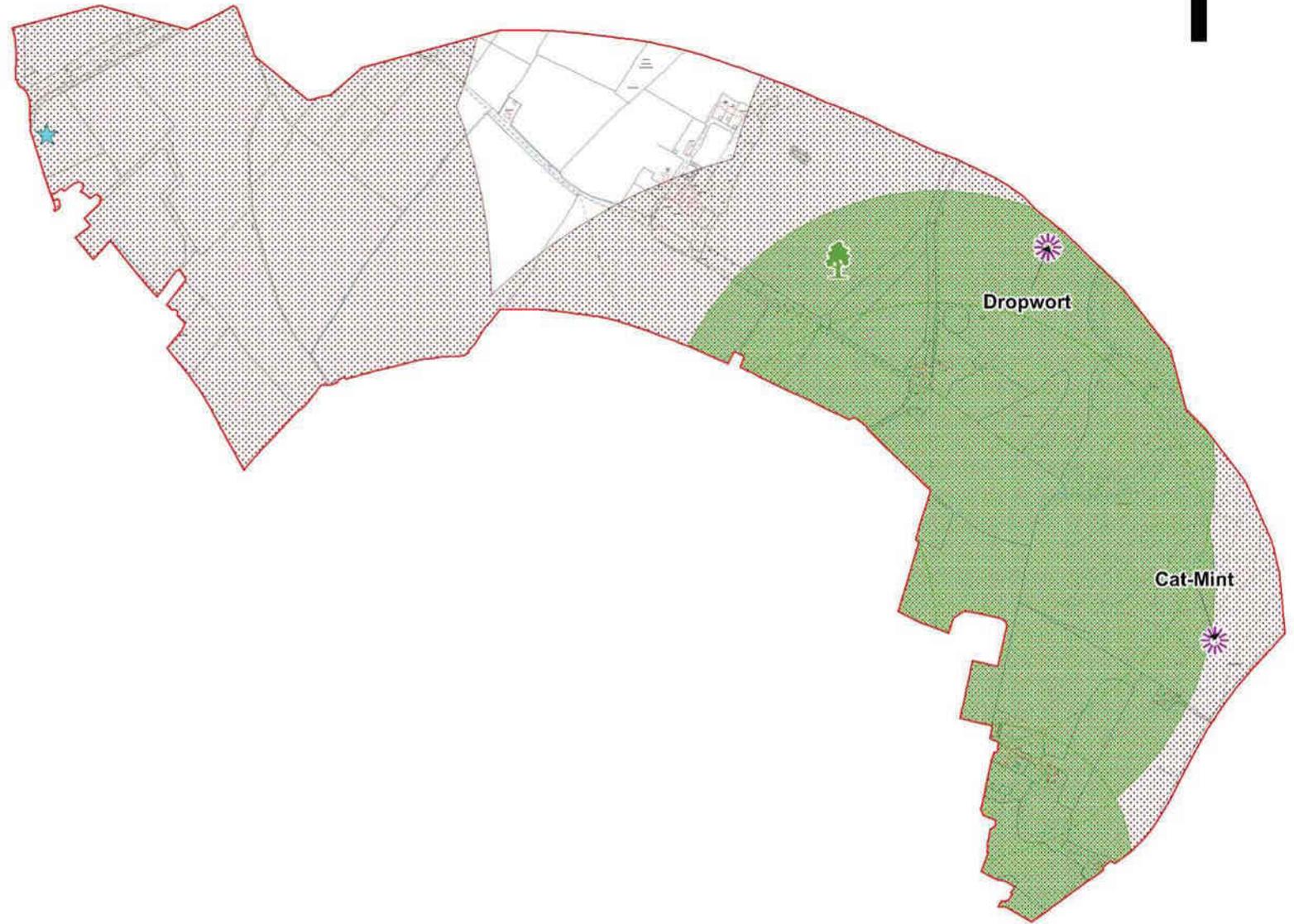
Species

 Buffer zone for otter, water vole or white-clawed crayfish

 Buffer zone for great crested newt, adder, grass snake or slow worm

 Buffer zone for bat

-  Brown Hare
-  Reptile/amphibian
-  Barn Owl
-  BAP Butterfly
-  Black poplar
-  Veteran tree
-  County rare plant



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River Avon North

Area: 76.7 hectares



Phase I Habitat Survey

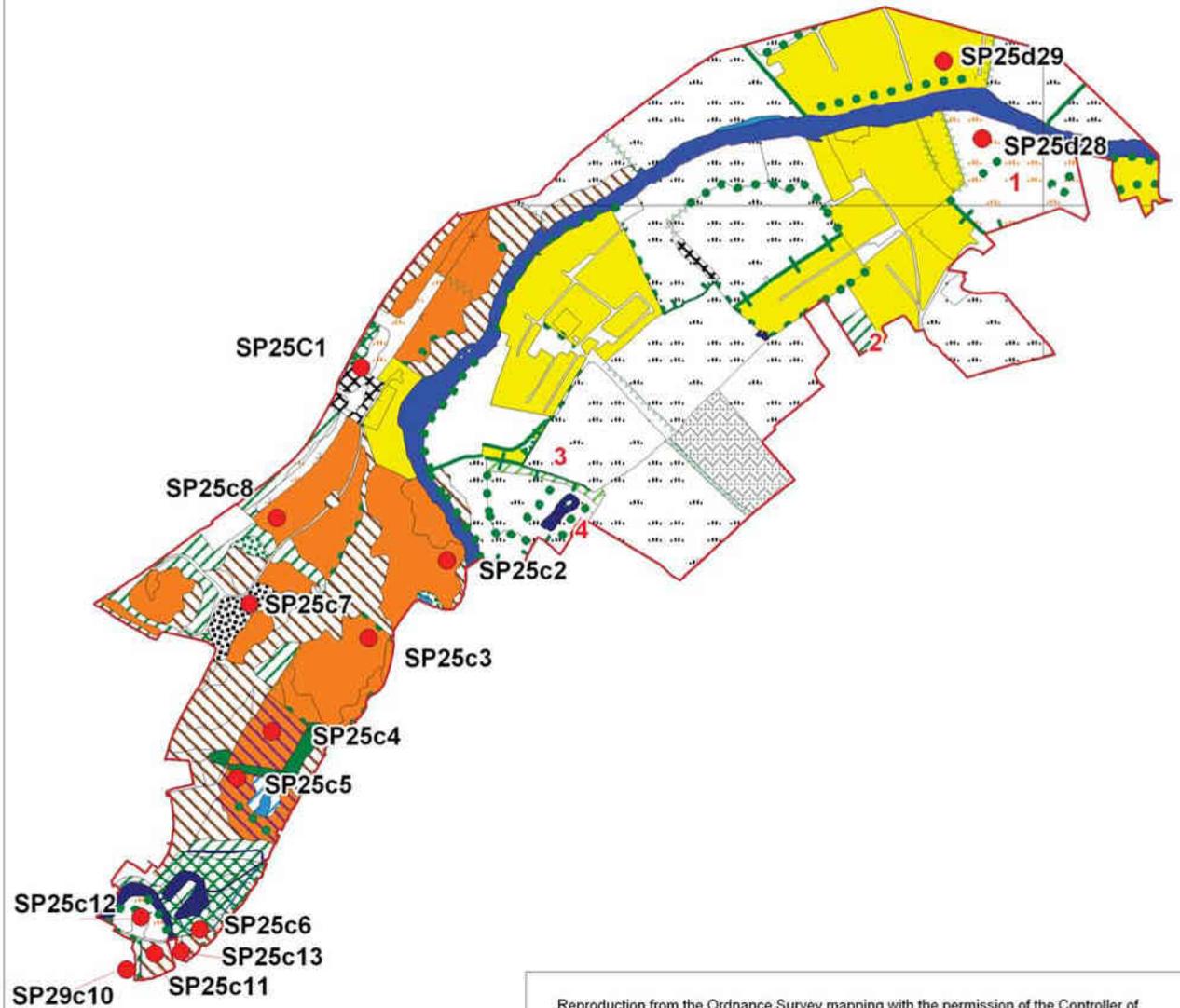
Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
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	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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**WARWICKSHIRE
BIOLOGICAL
RECORDS CENTRE**



River Avon North

Species

 Buffer zone for otter, water vole or white-clawed crayfish

 Buffer zone for great crested newt, adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

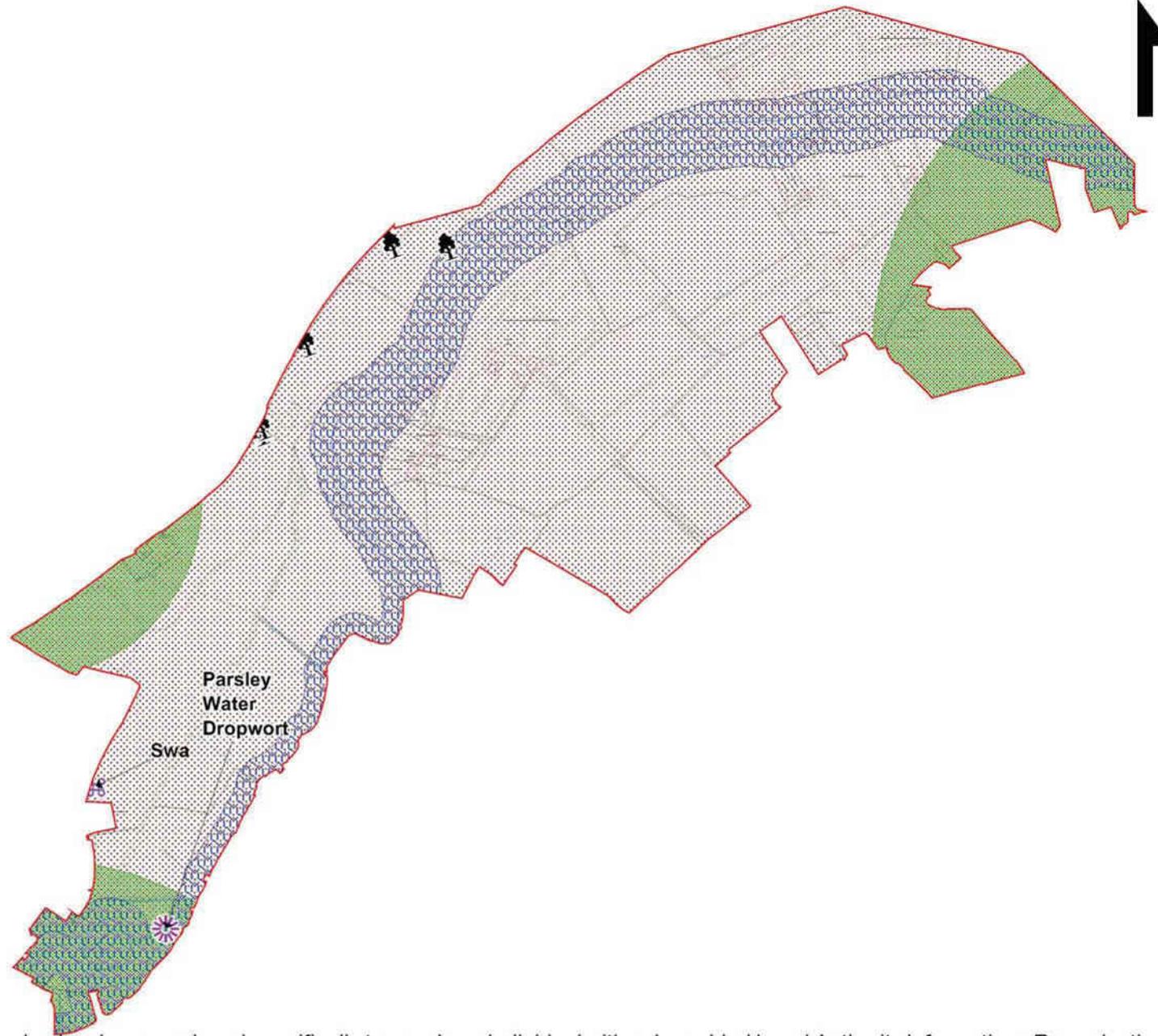
 Barn Owl

 BAP Butterfly

 Black poplar

 Veteran tree

 County rare plant



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Key for Reptile/Amphibian species

Tv	<i>Triturus vulgaris</i> (AKA <i>Lissotriton vulgaris</i>)	Smooth Newt
Rt	<i>Rana temporaria</i>	Common Frog
Bb	<i>Bufo bufo</i>	Common Toad
Lv	<i>Lacerta vivipara</i> (AKA <i>Zootoca vivipara</i>)	Common Lizard

Key for Red Listed and UK BAP Butterfly species

Please note that Small Blue and Dingy Skipper are also LBAP species

Cm	<i>Cupido minimus</i>	Small Blue
Cp	<i>Coenonympha pamphilus</i>	Small Heath
Et	<i>Erynnis tages</i>	Dingy Skipper
Lc	<i>Limenitis camilla</i>	White Admiral
Lm	<i>Lasiommata megera</i>	Wall
Pm	<i>Pyrgus malvae</i>	Grizzled Skipper
Swa	<i>Satyrium w-album</i>	White-letter Hairstreak

Appendix of Target Notes relating to Phase 1 Habitat Survey Maps (in alpha-numeric order)

Stratford-Upon-Avon Tetrad Target Notes.

SP15R

- 1.) The Greenway cycle/footpath. A hard-core path with grass verge of varying width and diversity; mostly rabbit grazed; bare or moss covered in places. Grasses are made up of *Poa* spp.; *Dactylis glomerata* and patches of *Festuca rubra* and *Arrhenatherum elatius* along the edges. Forbs include ragwort; creeping thistle; toadflax; Autumn hawkbit; St. John's wort; dove's-foot crane's-bill; creeping cinquefoil and black medick. Extensive patches of mouse-ear hawkweed occur along certain sections south of the embankment; while to the north near the river *Phragmites australis* and rosebay willowherb are lined with hawthorn; elder; oak and dense areas of bramble and traveller's joy.
- 2.) Poor semi-improved pony grazed pasture with abundant ribwort plantain; frequent white and red clover; Autumn hawkbit; dove's-foot crane's-bill and occasional prickly sow-thistle and spear thistle. The grasses are dominated by *Poa* spp. and *Dactylis glomerata*.
- 3.) River Avon - weir. Below the weir the river is slow running and deep; lined with willow and hawthorn scrub. Marginal vegetation includes *Carex riparia*; *Schoenoplectus lacustris* and *Typha latifolia* with patches of watercress and marsh woundwort. A small island has been colonised by willow scrub and some mature ash trees with a ground cover of nettles and rosebay willowherb. The weir itself is made up of large boulders creating a drop of approximately 2m. and have watercress and *Glyceria* sp.. Upstream the water is quite shallow with a marshy island of *Typha latifolia*; *Phragmites australis* and *Schoenoplectus lacustris* as well as some young willow.
- 4.) An area of willow carr on marshy ground with tall ruderal species such as rosebay willowherb; nettles; burdock and hemlock.
- 5.) Area of poor semi-improved grassland under garden trees such as apple; ash; horse chestnut and pine. The grasses are dominated by coarse varieties such as *Dactylis glomerata* and *Elytrigia repens*; and with cow parsley; dove's-foot crane's-bill and herb robert.
- 6.) Churchyard. Amenity grassland with *Poa* spp.; *Festuca rubra* and *Dactylis glomerata* with abundant *Rhytidiadelphus squarrosus*. Forbs include abundant daisy; frequent ribwort plantain; field speedwell and creeping buttercup and occasional spear thistle and bristly ox-tongue. Vegetation around the yew tree is limited.
- 7.) Poor sheep grazed semi-improved pasture with *Poa pratensis*; *P. annua*; *Arrhenatherum elatius* and *Dactylis glomerata*; patches of nettle and spear thistle and on slopes of the hummocky terrain dove's-foot crane's-bill; creeping cinquefoil; bristly ox-tongue and common mouse-ear. A survey earlier in the season may be worthwhile.
- 8.) A narrow section of rough grassland; predominantly *Arrhenatherum elatius*; *Elytrigia repens* and *Dactylis glomerata* with encroaching cow parsley; hogweed and nettle. Appears to be a deserted garden.
- 9.) Species poor semi-improved grassland on hummocky terrain; possibly old ridge and furrow; now sheep grazed. Contains *Poa pratensis*; *P. trivialis*; and occasional *Lolium perenne*; *Dactylis glomerata* and *Festuca rubra*. Forbs are

scarce with creeping buttercup and daisy; and occasional field speedwell and spear thistle. The steepest slopes contain dove's-foot crane's-bill and creeping cinquefoil. Interestingly the narrow verge between the road and fence contains abundant lady's bedstraw.

10.) Improved field ; however the steep bank has frequent musk thistle.

11.) Poor sheep grazed semi-improved pasture with frequent *Dactylis glomerata*; *Arrhenatherum elatius* with patches of *Festuca rubra* and nettle patches.

12.) Horse grazed pasture with frequent *Poa* spp.; *Dactylis glomerata* and occasional *Festuca rubra* with daisy; Autumn hawkbit and lady's bedstraw. The north-eastern section has scattered orchard on ridge and furrow and is fenced off from the horses. A pond along the western hedge is surrounded by hawthorn and blackthorn scrub with willow. Aquatic vegetation is restricted to the edges and includes yellow water-lily and broad-leaved pondweed. *Typha latifolia* and *Juncus inflexus* are frequent along the banks.

13.) Disused railway. No access so surveyed from the bridge at the eastern end. There is a thick hawthorn hedge to the north and planted conifer hedge to the south. Coarse grasses such as *Arrhenatherum elatius* and *Dactylis glomerata* are common with patches of *Festuca rubra*. In some parts bramble scrub is invading associated with nettle; dock and spear thistle. Black knapweed and yellow rattle have been reported on this site. A further survey earlier in the season is recommended.

14.) Area of semi-improved grassland with mostly scattered scrub; but dense/continuous in places. Appears to be abandoned gardens now overgrown with *Arrhenatherum elatius* and *Elytrigia repens*; with patches of nettle and rosebay willowherb and dog rose; elder and bramble. Young cherry; aspen and conifers have been planted at some time in the past.

15.) Rough; abandoned grassland near derelict garage. There is abundant *Arrhenatherum elatius* with frequent *Dactylis glomerata* and *Poa trivialis*. Creeping cinquefoil and creeping buttercup are widespread with extensive patches of teasel; creeping thistle and cow parsley and occasional bristly ox-tongue and spear thistle. A number of large earth and rubble banks are mostly covered with nettles; bittersweet and *Arrhenatherum elatius*. To the east of these rubble and hard-core have been colonised by *Festuca rubra*; *Dactylis glomerata* and *Poa trivialis* with frequent dove's-foot crane's-bill and ribwort plantain. Elder and nettle are becoming established on broken ground near the building. At the far eastern end of the site *Arrhenatherum elatius* again dominates but with occasional *Elytrigia repens*; *Phleum pratense* and *Bromus* sp.. A temporary wet area contains occasional water dock and creeping buttercup; with *Typha latifolia* ; great willowherb and *Juncus inflexus* occurring in the roadside drainage ditch.

16.) Area of tall ruderal species dominated by nettles; rosebay willowherb and occasional hogweed and cow parsley. There is an area of *Typha latifolia* swamp in the middle; but with no access available it was not possible to determine if any open water exists; however a moorhen was heard.

17.) Small area of poor semi-improved grassland dominated by *Arrhenatherum elatius* with *Dactylis glomerata* and *Poa trivialis* and occasional *Festuca rubra* and creeping cinquefoil.

18.) Very young plantation of oak; ash and alder. The grass beneath is regularly mown and rabbit grazed.

19.) Field mown just prior to visit. It appears to be dominated by coarse

grasses such as *Arrhenatherum elatius*. Bristly ox-tongue and creeping thistle are common.

20.) Poor semi-improved . Grasses present include *Lolium perenne* and *Holcus lanatus*; with frequent bristly ox-tongue; creeping cinquefoil; greater plantain and white clover.

21.) Unable to gain access to this field; which appears to contain abundant ragwort; bristly ox-tongue; greater plantain and creeping thistle.

Visited on 11/11/09 by MF. Field viewed over fence. Rank grassland, appears to have been left unmanaged for some time. No longer unimproved grassland. Species poor but recommend survey in spring/summer. Teasel, creeping buttercup, creeping cinquefoil, bristly oxtongue, creeping thistle, occasional hawthorn scrub, broadleaved dock. Visited on 11/11/09 by MF. This area of grass towards southern end of site is largely rabbit grazed. Oxford ragwort, ribwort plantain, creeping cinquefoil, bulbous buttercup, bristly oxtongue, occasional teasel, and creeping thistle.

SP15S

1.) Field of tall grasses such as *Arrhenatherum elatius* and *Deschampsia caespitosa*; with creeping thistle; dock and field bindweed also occurring.

2.) Field of tall grasses with abundant creeping thistle and dock. Creeping thistle is dense next to the road; where underground work has been carried out.

3.) Field containing ridge and furrow and grazed by cattle. Grasses include *Hordeum murinum*; *Holcus lanatus* and *Phleum pratense*. Creeping thistle is abundant; especially near the road; where underground work has been carried out.

Agrimony; lady's bedstraw and ragwort occur next to the farm drive-way.

Visited on 17/09/09 by MF. Very good quality meadow of semi-improved grassland, possibly cut and then grazed very early in the season. Germander speedwell, lady's bedstraw, agrimony, abundant meadow vetchling, abundant meadow buttercup, creeping thistle, hogweed, red clover, common mouse-ear, common sorrel, wooly thistle, creeping buttercup, creeping bent, dandelion, creeping cinquefoil. Visited on 17/09/09 by MF. Low growing hedgerow with hawthorn, elder, burdock and traveller's-joy.

4.) Cattle-grazed field consisting of tall grasses and abundant creeping thistle.

5.) Small area of young planted oak; field maple; cherry and guelder rose.

6.) Small meadow containing *Arrhenatherum elatius*; *Elytrigia repens*; *Festuca* sp. and *Dactylis glomerata*. Forbs include lady's bedstraw; bird's-foot-trefoil; spear thistle; yarrow; *Brachypodium pinnatum*; clover and field bindweed.

7.) Mature hedge which has been laid in the past; but is now derelict.

Although there is much common hawthorn; there are also wild privet; elder; crab apple; field maple; elm and dogwood; with blackthorn more common towards the north. Ash standards are scattered along its length. There is a ditch which becomes deeper to the north and rhododendron is also present here. The ground has some bare patches; but also supports *Arrhenatherum elatius*; *Dactylis glomerata*; *Bromus ramosus*; cleavers; cuckoo pint; dog rose; bramble; hedge bindweed; black and white bryony; burdock; herb robert and hemlock. Several green-veined white and speckled wood butterflies were seen.

From SINC survey:
Surveyor: C. Cholerton.
Date: 04/06/02

This mature hedgerow was once laid but has been unmanaged for some time and has now become derelict. It has Hawthorn *Crataegus monogyna* dominant with frequent Elder *Sambucus nigra* and occasional Blackthorn *Prunus spinosa*, Crab Apple *Malus sylvestris*, Wild Privet *Ligustrum vulgare*, and Buckthorn *Rhamnus catharticus*. Field Maple *Acer campestre* is rare. Ash standards *Fraxinus excelsior* are frequent along its length. There is occasional dead Elm towards the north end.

Along the hedge bottom, which has much bare ground, Rough Meadow Grass *Poa trivialis* is abundant with frequent Cocksfoot *Dactylis glomerata*, False Oat-grass *Arrhenatherum elatius* and Rye Grass *Lolium perenne*. Wood False-brome is occasional while Soft Brome *Bromus mollis* and Wood Meadow-grass *Poa nemoralis* are rare.

Of the herbs, Cow Parsley *Anthriscus sylvestris*, Rough Chervil *Chaerophyllum temulentum* and Nettle *Urtica dioica* are abundant.

Associated with the hedgerow, is a ditch which becomes deeper to the north. A public footpath runs adjacent to the hedgerow.

Visited on 17/9/9 by MF. Target note update. Also cultivated pear tree on west side. Public footpath runs through the hedgerow.

8.) Unable to gain access to this field; which appears to be dominated by tall grasses such as *Arrhenatherum elatius*. Spear and creeping thistle are both frequent.

Visited on 17/09/09 by MF. Access gained. Dominated by tall, coarse grasses with very occasional meadow and creeping buttercup, common mouse-ear, bird's-foot-trefoil, and creeping thistle.

9.) Unable to gain access to this field; which appears to be dominated by tall grasses such as *Arrhenatherum elatius*. Spear and creeping thistle are both frequent.

Visited on 17/09/09 by MF. Access gained. Very poor semi-improved grassland, dominated by coarse grasses, with occasional creeping cinquefoil, red clover, common mouse-ear, dandelion, creeping thistle, bulbous buttercup, meadow buttercup.

10.) Small strip of land above the A46 road embankment; dominated by tall grasses such as *Arrhenatherum elatius*. Spear and creeping thistle are frequent and ragwort is also present.

11.) Bank sloping down from road; covered with elm; ash and willow standards and hawthorn and elder scrub. Wild clematis is frequent. The ground flora contains woody nightshade; bristly ox-tongue; bramble; ivy; nettle; mugwort; teasel; wild parsnip; hemlock; burdock and creeping thistle.

12.) Very young plantation of oak; alder and ash. The grass beneath is regularly mown. There is much evidence of rabbits.

13.) Field mown just prior to visit. Appears to be dominated by tall grasses such as *Arrhenatherum elatius*. Bristly ox-tongue and creeping thistle are apparent.

14.) Field that may have been disturbed in the past. Grasses present include *Lolium perenne* and *Holcus lanatus*; with frequent bristly ox-tongue; creeping cinquefoil; greater plantain and white clover.

15.) Unable to gain access to this field; which appears to contain abundant ragwort; bristly ox-tongue; greater plantain and creeping thistle.

16.) Well-used green lane; the track having no vegetation. It is edged by

elm; elder; hawthorn; wild privet; rose; hazel and crab apple . There are also Ash and poplar standards. The ground flora beneath the hedges contains occasional nettle and elm regeneration; with bugle; wild clematis and violet sp. to the north west. There is some fallen dead wood.

17.) Unable to gain access to this area; so surveyed from adjacent path.

Appears to consist of dense elder scrub with some bramble. Also present are nettle; hemlock; teasel; spear and marsh thistle; selfheal; prickly lettuce; burdock; white clover and ragwort. Area is popular with small birds especially tits and finches.

18.) Area of hawthorn scrub with occasional elder; wild privet; elm; blackthorn and rose. Dogwood occurs to the south. There are also occasional ash standards; especially at the edges. The scrub is tall and creates a dense canopy so there is much bare ground. In more open area; nettles are abundant and other species include violet sp.; *Dryopteris filix-mas*; wood forget-me-not; wood avens; enchanter's nightshade; herb robert; cuckoo pint; wild clematis and *Brachypodium sylvaticum*. There are areas of building rubble and some standing and fallen dead wood. A green woodpecker and several rabbits were seen.

19.) Wide footpath dominated by *Lolium perenne*; but containing a variety of forbs; including frequent agrimony; mouse-ear hawkweed; selfheal; ribwort and greater plantain. Less frequent are black knapweed; woody nightshade; scarlet pimpernel; red clover and common calamint. There is some encroaching hawthorn; rose and wild privet. There is much evidence of rabbits.

20.) Open area surrounded by dense scrub; becoming colonised by hawthorn; rose; wild privet; way-faring tree and ash. The grasses are generally kept short; apparently by rabbits; but include *Brachypodium pinnatum*; *Dactylis glomerata* and *Holcus lanatus*. A variety of forbs is present including ragwort; agrimony; black knapweed; selfheal; black medick; red bartsia; fairy flax; upright hedge parsley; eyebright; perforate St. John's-wort; tall melilot and wild carrot. Occurring less frequently are common centaury; yellow-wort; woolly thistle; creeping restharrow; dwarf thistle and common calamint.

21.) Area of semi improved grassland between the footpath and the brook containing abundant *Arrhenatherum elatius*; *Phleum pratense*; *Holcus lanatus* and *Elymus repens* with frequent *Festuca rubra* and *Hordeum secalinum*. There are also occasional patches of *Agrostis* sp. and *Alopecurus pratensis*. Forbs present include frequent creeping thistle; hogweed; creeping cinquefoil; nettle; creeping and meadow buttercup; goat's beard; rough chervil; common sorrel and cleavers with occasional field bindweed. There is a small plantation of broad leaved trees at the northern end of the footpath. Frequent meadow brown; ringlet and large skipper.

22.) Poor semi improved grassland that is being grazed by sheep. The area contains abundant *Dactylis glomerata* and *Phleum pratense* with frequent *Cynosurus cristatus* and *Hordeum secalinum* and *Agrostis* sp. Forb species include frequent ladies bedstraw; creeping thistle; nettles and spear thistle with occasional knotgrass; shepherds purse and scentless mayweed.

From SINC Survey:

Surveyor: C. Cholerton Date: 11/06/02

This is a small area of semi-improved grassland lying between a public footpath and a brook. It has abundant False Oat-grass *Arrhenatherum elatius* and Rough Meadow-grass

Poa trivialis with frequent Cock's-foot *Dactylis glomerata*, Yorkshire Fog *Holcus lanatus*, Meadow Foxtail *Alopecurus pratensis* and Couch *Elytrigia repens*. Barren Brome *Anisantha sterilis* is occasional and Soft Brome *Bromus hordeaceus* *hordeaceus* is rare. Along the pathway there is frequent Meadow Barley *Hordeum secalinum*, Red Fescue *Festuca rubra* and Creeping Bent *Agrostis stolonifera*. Tall Fescue *Festuca arundinacea* is occasional. There is abundant Creeping Thistle *Cirsium arvense* and Common Nettle *Urtica dioica* with frequent Hogweed *Heracleum sphondylium*, Clustered Dock *Rumex conglomeratus* and Creeping Buttercup *Ranunculus repens*. Meadow Vetchling *Lathyrus pratensis* and Welled Thistle *Carduus acanthoides* are rare.

There is a defunct hedgerow in front of the brook with Hawthorn *Crataegus monogyna* dominant and occasional Elder *Sambucus nigra* and Blackthorn *Prunus spinosa*. There are occasional mature Ash *Fraxinus excelsior* and Willow *Salix* sp. A shorter length of intact hedgerow that forms the southern boundary has Blackthorn *Prunus spinosa* dominant with occasional Crap Apple *Malus sylvestris* and rare Privet *Ligustrum vulgare* and Buckthorn *Rhamnus catharticus*.

23.) Ditch by the side of an improved hay meadow containing *Holcus lanatus*; *Cynosurus cristatus*; *Hordeum secalinum*; *Lolium perenne* and *Alopecurus pratensis*. Creeping; spear and woolly thistle are all abundant and there are also frequent instances of prickly sow thistle; creeping cinquefoil and common sorrel.

24.) Species rich hedge containing hawthorn; blackthorn; field maple; dog rose; elm; elder; and privet. Includes bramble; black bryony; wild plum and woody nightshade.

25.) Species rich hedge containing hawthorn; elm; elder; dog rose; blackthorn with some

Visted on 06/07/09 by MD. Round-leaved fluellen and sharp-leaved fluellen both found at field boundary. Also wild parsnip, red bartsia, rough chervil, meadow vetchling in hedge line. Visted on 06/07/09 by MD. Red clover, meadow buttercup, lady's bedstraw, red bartsia. Visted on 06/07/09 by MD. Area of semi-improved neutral grassland with yellow-wort, common centaury, bird's-foot-trefoil, agrimony. Visted on 17/09/09 by MF. Species rich hedgerow. Elm, hawthorn, bramble, elder, blackthorn.

SP15T

1.) The Stratford-upon-Avon Canal where the west edge is vegetated with abundant great willowherb; willows and alders ; often overhanging the water. The towpath is on the east of the canal and has abundant *Carex riparia*; *Typha* sp.; *Glyceria maxima* and *Arrhenatherum elatius* growing in or around the edges of the water. There are also frequent meadowsweet; purple loosestrife; water figwort; field horsetail; tufted vetch; bittersweet; meadow vetchling; meadow cranesbill; and black medick. Occasional *Juncus effusus*; *J. inflexus*; *Deschampsia cespitosa* and *Dactylis glomerata*; also; burdock; black knapweed and rough chervil were present.

2.) A small area of semi natural woodland with the canopy consisting of ash beech and hawthorn. There is a large amount of regeneration; primarily of ash and hawthorn with lots of elder particularly around the edges. The ground flora is sparse and not varied; being dominated by ivy and brambles with occasional garlic mustard and *Bromus ramosus*.

3.) A high bank on the canal with little vegetation on the towpath; but abundant burdock at the edges with peacock butterflies very active around here at the time of the survey. The other bank is dominated by willow; great willowherb; meadowsweet; and *Glyceria maxima* with patches of *Typha* sp.

4.) Woodland dominated by oak and hawthorn; with much hawthorn; elder; and blackthorn in the understorey. There is abundant brambles with the ground flora consisting of frequent nettles; bittersweet; herb robert and *Bromus ramosus*. There was also some *Dryopteris filix-mas* present.

From SINC survey:

Surveyor: C. Cholerton

Date: 17/07/02

The canopy has Oak *Quercus robur* dominant with occasional Ash *Fraxinus excelsior* and rare Scots Pine *Pinus sylvestris*, Larch *Larix* sp and Sycamore *Acer pseudoplatanus*. The understorey has Hawthorn *Crataegus monogyna* dominant with occasional Elder *Sambucus nigra*, Blackthorn *Prunus spinosa*, Wild Privet *Ligustrum vulgare* and English Elm *Ulmus procera* (suckers). There is abundant Common Nettle *Urtica dioica* and locally abundant Bramble *Rubus fruticosus*. Creeping Buttercup *Ranunculus repens* and Wood Dock *Rumex sanguineus* are frequent. Hedge Woundwort *Stachys sylvatica* is occasional with rare Spurge Laurel *Daphne laureola*, Tufted Vetch *Vicia cracca*, Hairy St John's Wort *Hypericum hirsutum*, Agrimony *Agrimonia eupatoria*, Wild Parsnip *Pastinaca sativa*, Common Knapweed *Centaurea nigra* and along the farm track, Red Bartsia *Odontites verna*, Violet *Viola* sp and Rough Chervil *Chaerophyllum temulentum* are locally abundant. Pendulous Sedge *Carex pendula* is rare along with Male Fern *Dryopteris filix-mas*.

Of the grasses False Oat-grass *Arrhenatherum elatius* and Yorkshire Fog *Holcus lanatus* are abundant with frequent Cocksfoot *Dactylis glomerata* and Wood False-brome *Brachypodium sylvaticum*. There is occasional Timothy *Phleum pratense* and Hairy Brome *Bromus ramosus*. Meadow Barley *Hordeum secalinum* is rare. Black Bent *Agrostis gigantea* and Reed Canary-grass *Phalaris arundinacea* are locally abundant.

There are partially managed pathways through the woodland.

5.) A recently planted broadleaf woodland; formed of a mosaic of stands of ash; sycamore; beech and horse chestnut.

6.) Two fields for horse grazing with abundant *Phleum pratense*; *Lolium perenne*; *Dactylis glomerata* and rare examples of *Brachypodium pinnatum* at the edges. The forbs present were found at low density; and consisted of scattered common sorrel; creeping thistle; bush vetch; selfheal and black medick; with rare agrimony at the edges.

7.) A small area of grassland surrounded on three sides by woodland; this is dominated by *Festuca* sp. with occasional common ragwort; black medick; red bartsia and clovers.

8.) A small area of grassland this is dominated by *Festuca* sp. with *Dactylis glomerata* and *Cynosurus cristatus*. There were occasional common ragwort; black medick; red bartsia; selfheal and clovers.

9.) This woodland has had very little management which can be seen. The canopy is a fairly open one and contains beech; oak; ash; and some alder at the edges. The understorey consists of dense elder scrub in places with brambles locally dominant. The ground flora is otherwise not abundant; being found mostly at the edges and is of nettles; garlic mustard and herb robert.

10.) A water feature probably managed for fishing; this has amenity cut grass along the edges of the lake; with scattered trees; particularly willows

overhanging the water at points. There is an island in the middle with a mix of trees; willows; alder and conifers all evident. There is no obvious vegetation in the middle of the lake; but in a few areas around the edge there are stands of *Typha* sp.

11.) An area of woodland which has two distinct forms. Closest to the road the wood is a semi natural broadleaf with ash; oak; birch and some white poplar. The understorey is dominated by elder scrub and the ground flora is sparse with only nettles and garlic mustard obvious and only close to the edges where more light is admitted. The half of the wood further from the road is a coniferous plantation with larch and spruce planted very close. There is no ground flora here.

SP15W

1.) Seven Meadows; Stratford; site no. 1328. Stratford racecourse has a large area of amenity grass which occupies its eastern half. The western half which starts at a point level with the stands contains more varied habitats due to the presence of defunct hedges and a small spring which emerges. The spring has garlic mustard and nettles abundant along its edges; while the hedges; which are of elm and hawthorn; have nettles; cow parsley and garlic mustard frequent with a few common mallow. There are longer grasses also found there with *Dactylis glomerata* and *Festuca* sp. In the more open areas there is smooth cats ear and dandelions scattered around in a mixture of *Lolium perenne*; *Dactylis glomerata* and *Festuca* sp.

2.) A series of fields separated from each other by linear scrub of hawthorn; with occasional gaps in it so the fields are connected. There is abundant *Lolium perenne* with frequent *Dactylis glomerata* and *Holcus lanatus*; with occasional *Cynosurus cristatus*. Forbs present were frequent salad burnet; and occasional ladies bedstraw; black knapweed; smooth cats ear and creeping buttercup. A few examples of meadowsweet were present. Next to the hedge there was cow parsley; nettles and a bit of bramble.

3.) Poor semi improved field; with *Lolium perenne*; *Dactylis glomerata*; *Holcus lanatus* and *Poa* sp. all recorded. There was common chickweed; creeping and spear thistle and nettles occasional across the field.

Visited on 14/07/09 by MD. Resown with rye-grass. Just remnant patches of Yorkshire fog, false oatgrass, meadow foxtail and meadow buttercup. Visited on 14/07/09 by MD. A dozen plants of common cudweed growing on top of bridge where concrete has broken exposing brickwork. Many more on bare ground nearby. Spotted medick also on bridge. Visited on 14/07/09 by MD. Great burnet throughout field. Visited on 14/07/09 by MD. Used as race course car park.

4.) The River Avon contains *Phragmites australis*; *Carex riparia* and *Schoenoplectus lacustris* in scattered patches of sizes between only a few plants to several metres across along this stretch of the water course. There are a few *Typha latifolia* in the tributary joining it from the north. The sides of the river have abundant nettles with occasional areas of bare poached ground where cattle and sheep come to drink.

5.) A footpath along the edges of the river which runs through a thin strip of woodland in which the dominant species willow and ash; with blackthorn; hawthorn and elder in the lower levels. There is frequent comfrey; wood avens; herb robert; nipplewort; *Viola* sp.; cow parsley and ground elder. There was also occasional bittersweet and patches of *Brachypodium sylvaticum* and *Bromus*

ramosus. In the west half of the path it runs across the bottom of many private gardens; and the river edges are much more open. Here can be found ladies bedstraw; tansy; common ragwort; garlic mustard; bristly ox'tongue and nettles in addition to those named above. The marginal vegetation in the river is of frequent *Typha latifolia*; *Carex riparia* and *Schoenoplectus lacustris* with occasional marsh marigold. At one point giant hogweed was recorded.

6.) As the river passes under the disused railway; there is an open area of grass on the north bank. This contains *Poa* sp.; and *Dactylis glomerata* with frequent ground ivy; cow parsley; hemlock; nettles and burdock and is surrounded by scrub of elder. At the eastern end of this area there is a patch of hawthorn; blackthorn and elder.

7.) The River Avon contains patches of *Phalaris arundinacea* and *Schoenoplectus lacustris* with willow and sycamore frequent along the banks.

8.) The bank on the south of the river is steep and some 20m high with mature ash and oak; with hawthorn and alder present occasionally. The ground flora of the bank contains nettles and garlic mustard with occasional *Brachypodium sylvaticum* and *Bromus ramosus*. Talking with local residents ascertained that kingfishers nest here. The north bank is only 2-3m high and has no trees over it. The vegetation is dominated by *Dactylis glomerata* with cow parsley; nettles hemlock and prickly lettuce.

9.) This field has just been cut so it is not possible to tell what category to place it in. The vegetation still visible contains a lot of clover and a small amount of *Lolium perenne* which suggests improved grassland but this will need to be checked at a different time of the year.

10.) A mature island in the River Avon with man made obstructions to the water course on both sides. The south of the island is connected to the mainland by a lock while on the north there is a weir of boulders stretching across the river. This supports a few willow saplings; great willowherb; bittersweet; (possible) water mint and nettles with occasional *Glyceria maxima*. The island itself is planted with willow trees and the edges have *Carex riparia*; *Schoenoplectus lacustris* and water dock.

11.) A poor semi improved field with a mosaic of *Elytrigia repens*; *Dactylis glomerata* and *Holcus lanatus*. There are also scattered nettles; thistles and brambles with occasional creeping cinquefoil; creeping buttercup and a cranesbill.

12.) The banks of the river here have an ash canopy; with field maple; hawthorn and field maple in the understorey. There is abundant ivy on the ground and growing up trees. The ground flora contains ground ivy; wood avens; garlic mustard and herb robert with nettles frequent also.

13.) The River Stour has marginal vegetation of abundant *Schoenoplectus lacustris* and *Typha latifolia* with watercress; meadowsweet and water forget-me-not occasional. There is a small weir on which bittersweet and a willow tree grow as it enters the final field before joining the River Avon.

14.) A disused railway which is dominated by *Phragmites australis* on the north side with planted spruces on the south with nettles; elder; bramble and rosebay willowherb below. The path in the middle has a formalised section of 1.5m width on either side of which there is an area of short *Poa* sp. and *Geranium* sp. with short creeping thistle and common ragwort. To the east of the sewage works the path is the same but the sides gradually change losing the *Phragmites australis* which is replaced by scattered scrub of hawthorn and dog

rose. There are occasional creeping cinquefoil; weld; great mullein; teasel and ground ivy.

15.) To the east of the crossing over the River Avon the disused railway is lined with ash standards below which is a mosaic of hawthorn; elder and bramble scrub; with burdock; nettle; common ragwort and creeping and spear thistle.

16.) A poor semi improved field in which there are a mixture of *Lolium perenne*; *Dactylis glomerata*; *Holcus lanatus* and *Arrhenatherum elatius*. Forbs present include yarrow; creeping and spear thistle; and mugwort.

17.) A poor semi improved field in which there are a mixture of *Lolium perenne*; *Dactylis glomerata*; *Holcus lanatus* and *Arrhenatherum elatius*. Forbs present include yarrow; creeping and spear thistle; and mugwort.

18.) No direct access was gained to this site but looking through gaps and over the fence; it seemed to contain dense tall ruderals across the whole of the site. The local residents when consulted knew little of its background or present status.

19.) A path between the Greenway and a fenced off area of ruderal vegetation; along which there is scrub and young trees including ash and field maple. In one section there is a stand of dense japanese knotweed.

20.) River Stour; riverside vegetation includes greater willowherb; nettle; dog rose; elder; teasel; blackthorn; *Rumex* sp.; angelica; ivy; hawthorn; wood avens; *Arrhenatherum elatius*; white deadnettle; hedge bedstraw and hawkweed. Quite diverse.

21.) Area of poor overgrown semi-improved wasteland with *Rumex* sp.; nettle; bramble; *Taraxacum* sp.; spear thistle; elder; mugwort; hogweed and privet.

22.) Pool with semi-improved vegetation at south end. Species present include teasel; *Rumex* sp.; hogweed; bindweed; rosebay willowherb; creeping thistle; cow parsley; nettle; *Typha latifolia*; ivy and coltsfoot.

23.) Poor semi-improved grassland.

24.) Poor semi-improved grassland with *Arrhenatherum elatius*; *Dactylis glomerata*; *Poa pratensis*; creeping buttercup; bulbous buttercup; common mouse ear; cut leaf cranesbill and cow parsley. Good roadside hedge with hawthorn; blackthorn and bramble. May be worth visiting earlier in season.

25.) Dense continuous scrub with hawthorn and blackthorn.

26.) Pool; we could not gain access to this; so we cannot tell if it has dried up or not. It is surrounded by mixed plantation and willow scrub.

Visited on 14/07/09 by MD. Red clover, meadowsweet. Visited on 14/07/09 by MD. 2 sedge warblers singing, reed bunting, 3 kingfishers along river. Visited on 14/07/09 by MD. Marsh woundwort on river edge.

SP15X

1.) Probable hay meadow; recently cut. Grasses visible include *Cynosurus cristatus*; *Arrhenatherum elatius*; *Dactylis glomerata* and *Elytrigia repens*. There is occasional red clover. To the west; the ground slopes down to the road and the grass is uncut. Here there are *Arrhenatherum elatius*; *Phleum pratense*; yarrow; upright hedge parsley and creeping thistle.

2.) Pony paddock containing *Lolium perenne*; but also *Phleum pratense*; *Holcus lanatus* and *Agrostis* sp.. There is frequent spear thistle and occasional yarrow.

10.) Area of tall grasses; dominated by *Arrhenatherum elatius*. Also present

are *Festuca rubra*; *Holcus lanatus*; black medick; cow parsley; meadow vetchling; creeping thistle; lady's bedstraw; yarrow; nettle and field bindweed. There is some bramble encroachment. Primrose and fritillary (natural and planted) are reported. Common blue; small tortoiseshell and small white butterflies were seen.

11.) Mature woodland containing sycamore; wellingtonia (?); large-leaved lime and horse chestnut. The understorey contains holly; yew; elder; elm and sycamore regeneration. The ground is covered by ivy and Oregon grape; butcher's broom; deadly nightshade; cuckoo pint; wood avens and nettle also occur. Bluebells are reported; but were not seen at time of survey. Fox; muntjac reported.

Visited on 01/02/10 by MF. Additional notes. Recommend re-surveying woodland and grassland in spring 2010. Site is dangerous as Shottery Hall burnt down and area is largely fenced off. Woodland contains snowdrops, occasional rhododendron. 12.) Orchard with mature apple; plum; cherry and pear trees. Ground is dominated by *Arrhenatherum elatius*; with *Dactylis glomerata* and *Holcus lanatus*. Nettle is abundant and bramble is encroaching. Other species present include hogweed; cow parsley and black horehound. Speckled wood butterflies were seen.

Visited on 01/02/10 by MF. Additional notes. Orchard remains but appears to be completely unmanaged and the trees are now overgrown. Dog rose and common comfrey present but unable to identify much else as site was surveyed in mid winter. 13.) Stretch of Shottery Brook. Water is murky and no aquatic vegetation is evident. The banks; which have been re-inforced; support rare nettle-leaved bellflower; hogweed; nettle; dog rose and hawthorn. One section is overhung by a mature horse chestnut. Moorhen and several ducks were present.

Visited on 07/07/09 by MD. Frequent nettle-leaved bellflower observed.

Visited on 01/02/10 by MF. Shottery brook remains murky at this point. Unable to survey for plants because visit to site took place in winter. 14.) Immature plantation of Norway spruce with occasional oak. The ground flora contains much ground elder with nettle at the edges.

Visited on 01/02/10 by MF. Mature mixed plantation that contains ash and bramble as well as the species recorded previously. 15.) Derelict area to which access could not be gained. Areas of concrete are apparent; with large patches of tall ruderals; garden escapes and early colonisers. Species present include prickly lettuce; creeping thistle; nettle; golden rod; tansy; common poppy; hedge bindweed; mugwort; rosebay willowherb; dock; redshank; mallow and fumitory.

16.) Derelict area containing *Arrhenatherum elatius*; *Elytrigia repens* and *Holcus lanatus*. Mugwort is abundant and also present are white campion; tansy; perforate St. John's-wort; yarrow; spear thistle; dock; golden rod; prickly lettuce; bramble; hairy tare; black medick; weld; rosebay willowherb; nettle and greater plantain.

Visited on 13/07/09 by MD. Still has a lot of yarrow and red clover but is heavily mown. Graveyard is being extended on to this area.17.) Area of semi natural broad leaved woodland of predominantly ash with willow towards the northern side and abundant hawthorn and field maple along the southern edge. The understorey is composed of abundant elder with occasional dog rose and hawthorn. The ground flora is composed of young ash and field maple saplings with abundant brambles; hedge woundwort. Nipplewort; lords and ladies; hedge bindweed and nettles occur frequently with occasional ivy; bittersweet and ground elder. The only grass species found at the site was *Bromus ramosus* which was locally abundant.

Visited on 13/07/09 by MD. Woodland cleared for warehouse.18.) Stand of trees along the stream bank that includes abundant willow with crab apple; ash; elder; hawthorn and field maple all occurring frequently. There are signs of encroachment by foreign species including laurel bushes. Species present along the streams edge include abundant fools water cress; bramble; nettles and ivy with occasional orange balsam; wood avens; brooklime; greater willow herb and rare French cranesbill. Species present within the water include abundant branched bur-reed with occasional arrowhead and water plantain. Goat willow; flowering currant and elm tree standards were also found along the bank side.

19.) Mature stand of trees containing predominantly oak and ash with frequent hawthorn and field maple and an understorey of elder and dog rose. The ground flora contains abundant ivy and brambles with frequent burdock; lords and ladies and bittersweet. There are also occasional areas of water chickweed and water figwort. Dragonflies such as the brown hawk and large red damselflies are abundant in this section of the stream.

20.) A pond at the eastern end of a woodland that contains dominant stands of *Phragmites australis* with frequent *Phalaris arundinacea*; *Carex acutiformis* and occasional *Schoenoplectus lacustris* and *Juncus effusus*. Forb species include abundant water mint; water forget-me-nots and greater willow herb. There are also occasional patches of purple loostrife and yellow iris. White water lilies are frequent within the pond itself. The hedgerow on the southern side of the pond contains blackthorn; hazel and alder buckthorn. Willow; beech and poplar standards surround the pond.

21.) Mixed plantation woodland with patches of tall ruderals towards the pond area. The ruderal species include abundant hedge bindweed with occasional tansy; common comfrey and hogweed. Tree saplings are also present including the wayfaring tree hazel and willow. Hemlock; cut leaved cranesbill; selfheal and teasel are also present but are less frequently distributed. The woodland itself is predominantly ash with frequent horse chestnut and willow. The understorey is made up of abundant wayfaring saplings with frequent elder; dogwood and hawthorn. The ground flora is composed of abundant nettles with frequent herb robert; enchanters nightshade and occasional burdock; lords and ladies and dock.

Visited on 01/02/10 by MF. Additional notes. A woodland path has been constructed in the plantation area approx. 300 m long and is called "Shottery Brook Walk". Woodland full of birds: blackbird, great tit, blue tit, goldfinch, redwing, wren, chaffinch, robin, bullfinch

(female), and mallard near the brook. Woodland in area carpeted with snowdrops. Also wood avens, herb robert, ground ivy, hogweed, red campion, burdock, great willowherb, wild carrot, sycamore, yew, cotoneaster, field maple, holly, bramble, beech, alder, horse chestnut, occasional rhododendron. A poor semi-improved grassland area with few species present. There was abundant creeping bent, with occasional rye-grass, Yorkshire fog, cock's-foot, Timothy, wild oat. The forbs present were scattered and contained occasional common vetch, common field speedwell, common ragwort, rosebay willowherb, and frequent red clover.

Visited on 01/02/10 by MF. Area previously recorded as semi-improved is now divided by fences into smaller horse grazed fields. Unable to do any species identification because survey was done in mid winter. fields appear to be improved or poor semi-improved. Visited on 07/07/09 by MD. Tree lined brook with nettle-leaved bellflower. Visited on 07/07/09 by MD. A lot of Scots Pine amongst broad-leaved trees. Visited on 07/07/09 by MD. Track of semi-improved grassland with agrimony, meadow buttercup, yellow-wort, centaury. Gardens to South have similar spp. Visited on 07/07/09 by MD. Small allotments with lesser snapdragon, cornflower (O). Visited on 07/07/09 by MD. Meadow buttercup, yarrow, black horehound. Visited on 07/07/09 by MD. Area of rough grassland, probably awaiting development. Roesel's bush-cricket, gatekeeper and meadow brown butterfly. Visited on 13/07/09 by MD. Field scabious along boundary. Marsh woundwort along stream, field speedwell. 3.) Recently cut meadow containing *Lolium perenne*; *Phleum pratense*; *Holcus lanatus*; *Dactylis glomerata* and *Cynosurus cristatus*. Forbs include frequent buttercup; red clover; creeping thistle and dock; with rarer black knapweed; mugwort; ox-eye daisy and mouse-ear hawkweed.

Visited on 01/02/10 by MF. Mixed semi-natural woodland. Beech, sycamore, holly, elder, horse chestnut, Scot's pine. ground flora: snowdrops, cleavers, ivy, common nettle, bramble, creeping thistle and Japanese knotweed. There is a large badger sett in the centre of the woodland with at least 8 entrances with evidence that the sett is occupied and sightings confirmed by tenant at Dudfields Nurseries. Visited on 01/02/10 by MF. treecreeper and green woodpecker seen at this point along footpath. Species rich hedgerow runs alongside footpath to south. Survey recommended in spring 2010. There is a dried out pond at the western end of the footpath. Crack willow and hawthorn have encroached on the area.

4.) Field grazed by goats and containing tall grasses; including *Dactylis glomerata*; *Lolium perenne*; *Arrhenatherum elatius*; *Elytrigia repens* and *Holcus lanatus*. Nettle occurs occasionally.

5.) Damp area dominated by great willowherb and with occasional nettle; hemlock and hedge bindweed. There is a little elder; hazel and hawthorn scrub.

6.) Small plantation of immature ash with elm and hawthorn in the understorey.

The canopy is dense and ivy covers some of the trees. The ground flora contains occasional cuckoo pint; frequent cow parsley; dock; meadowsweet; bramble; nettle and *Bromus* spp.. There is a mature willow at the edge.

Visited on 01/02/10 by MF. Additional notes. The plantation contains winter aconite.

7.) Fairly damp meadow sloping down to stream. Grasses include abundant *Holcus lanatus* and also *Dactylis glomerata*; *Lolium perenne* and rarer *Arrhenatherum elatius*. Forbs include hogweed; creeping thistle and upright hedge parsley. An ancient crack willow occurs near the stream.

8.) Unable to gain access to this field which is dominated by grasses; but also contains abundant dock and some wood avens. There are some trees present

including young conifers; mature oak and horse chestnut and apple and damson trees near the road.

9.) Area of scrub and tall ruderals. The scrub patches contain elder; hazel; ash; yew; apple and damson; with mature Scots pine. Nettles are locally dominant and other species present include hedge bindweed and creeping thistle.

SP15Y

1.) Poor semi improved grassland; with *Lolium perenne*; *Dactylis glomerata* and *Cynosurus cristatus*. There were evenly scattered common sorrel; creeping thistle; smooth cats-ear; and common daisy; with no one species being dominant.

2.) This area is a strip of fenced grassland running along the northern edge of the field and being some 4-5m in width along its length. It contained a high number of grasses; these being *Dactylis glomerata*; *Alopecurus pratensis*; *Phleum pratense*; *Agrostis capillaris*; *Arrhenatherum elatius* and *Cynosurus cristatus*. The herbs present were not abundant; but consisted of evenly distributed smooth cats-ear; common sorrel; cut-leaved cranesbill; great willowherb; and creeping and spear thistle.

3.) This is a lightly grazed horse field; with a number of grasses such as *Dactylis glomerata*; *Cynosurus cristatus*; *Agrostis capillaris*; *Holcus lanatus*; *Alopecurus pratensis*; *Arrhenatherum elatius*; *Lolium perenne* and *Phleum pratense*. Herbs were few and dominated by common sorrel with smooth cats-ear; yarrow and creeping and spear thistle.

4.) This plantation has a few standards of oak and ash forming an open canopy; with a dense lower canopy formed by less mature oak; ash; hawthorn; hazel and spruces. Understorey was formed by elder and there was no ground flora other than sparsely distributed nettles.

5.) A small area of poor semi improved grassland adjacent to a house. It appears to be unused and has the following grasses - *Lolium perenne*; *Dactylis glomerata*; *Phleum pratense*; *Arrhenatherum elatius*; *Holcus lanatus* and *Alopecurus pratensis*. There were clumps of nettles and creeping thistles scattered around the area and nipplewort was also found.

6.) Road verge of 2m width; backed by a hedge of blackthorn and hawthorn; with brambles and black bryony growing out of it in places. The verge itself is dominated by *Arrhenatherum elatius*; with *Dactylis glomerata* and *Lolium perenne*. There is abundant agrimony; with black knapweed; field bindweed; yarrow; common sorrel; and common ragwort.

7.) Scattered scrub over poor semi improved grassland; which consists of *Dactylis glomerata*; *Arrhenatherum elatius*; *Lolium perenne* and *Holcus lanatus*. In this area there are nettles; rosebay willowherb; common sorrel and yarrow. The scrub consists of hawthorn and brambles.

8.) Planted trees by the side of the road of hazel; ash; blackthorn; hawthorn; field maple; willow sp. alder and elder. Behind this runs a path by which is found prickly lettuce; bittersweet; nettles; rosebay willowherb; yarrow; hedge woundwort and brambles.

9.) Small area of mixed plantation close to edge of road; silver birch; ash and spruce spp.

10.) A small field to the south of the farm buildings in which were many abandoned vehicles and one small pony tied up. This field has become dominated by tall ruderal vegetation; mostly nettles; but also with frequent prickly lettuce; creeping thistles common sorrel and dock spp.

11.) Rough semi improved grassland to the east of the tip site; dominated by *Lolium perenne* and *Dactylis glomerata* with *Holcus lanatus* and *Arrhenatherum elatius*. There was abundant hemlock and common sorrel; and also black knapweed; common ragwort; creeping and spear thistle.

12.) Stratford on Avon canal. Recorder site no.1501/1. The towpath is on the east side of the canal. This is bordered on its east by a low hedge of hawthorn.

The vegetation immediately adjacent to the canal had been recently cut and so it was not always possible to identify what was found. However that which was identified included skullcap; ribbed melilot; pale st johns wort; meadowsweet; colt's foot; silverweed; field horsetail; meadow vetchling; yellow flag; *Juncus inflexus* and *Carex otrubae* and *Carex riparia*. South of the A46 on the towpath edge wild angelica; gypsywort; trifid bur-marigold; water dock; amphibious bistort; water figwort; arrowhead and brooklime were found. The west side of the canal was in many places overhung with willow and ash trees; and at the waters edge had willow and alder saplings; and great and rosebay willowherb; meadowsweet; purple loosestrife and *Phalaris*

13.) Park wood - a semi natural broadleaf wood about 1km in length on the side of a steep hill with west facing slopes. The canopy of this wood consists of ash and oak with few field maples. The understory is different at the lower slope from that found at the top of the hill; with hazel coppice and hawthorn; sycamore; field maple; dogwood and elder at the top; while the bottom of the slope is entirely elder scrub. Bluebells; ground ivy; lords and ladies and violet sp. and were found throughout the woodland. The flora at the bottom of the slope was thinly distributed and had the above named species as well as common figwort; germander speedwell; cowslips; and male fern. The top of the slope was much more abundant in vegetation with *Milium effusum*; *Bromus ramosus*; burdock; common sorrel; bittersweet; dog rose; greater stitchwort; wild privet; and enchanters nightshade; and brambles and honeysuckle particularly along the path edge. There were many speckled wood butterflies active during the visit.

14.) The embankment of a road cutting for the A46. This has steep sides to 15m height; and the top of the slope has been planted with sycamore; rowan and hawthorn. Further down the slope is dominated by *Arrhenatherum elatius*; with frequent *Holcus lanatus* and *Dactylis glomerata*. There is also abundant stone parsley; perforate st johns wort; common ragwort and creeping thistle and occasional hedge woundwort and prickly lettuce.

15.) Hedge with ditch running along the eastern edge of the field and continuing around the patch of woodland. The hedge is predominantly of hawthorn with occasional blackthorn. The ditch was dry at the time of the visit but containing great willowherb; bittersweet; brooklime suggests it may hold water at times. Also found in and by the ditch were field forget-me-not; prickly sow thistle; ground ivy; hedge woundwort; common sorrel; selfheal; germander speedwell and knotgrass. to the southern end of the path restharrow and ladies bedstraw; with occasional field bindweed; nipplewort and prickly lettuce.

16.) A very small area of semi natural broadleaf between arable fields. The canopy is quite open; with oak and ash standards. The understory contains oak; ash; hawthorn and hazel; while the ground flora has abundant garlic mustard and nettles; with ivy and ground ivy; herb robert and violet sp.

From SINC Survey:

Surveyor: C Cholerton Date:11/06/02

This is a small area of neglected, semi-natural broadleaved woodland. The canopy has Ash *Fraxinus excelsior* dominant with occasional Oak *Quercus robur* and Wych Elm *Ulmus glabra*. Horse Chestnut *Aesculus hippocastanum* and Crack Willow *Salix fragilis* are rare. The understorey comprises abundant Elder *Sambucus nigra*, especially at the north end where the canopy is less dense. Hawthorn *Crataegus monogyna* and English Elm *Ulmus procera* are frequent. The Elm is small and in various stages of decline. Wild Privet *Ligustrum vulgare* is occasional with Field Maple *Acer campestre* and Blackthorn *Prunus spinosa* rare. The ground flora is dominated by nettles *Urtica dioica* at the north end in the more open area. At the south end where the canopy is more dense Cleavers *Galium aparine*, Ivy *Hedera helix* and Ground Ivy *Glechoma hederacea* are abundant with frequent Garlic Mustard *Alliaria petiolata* and locally abundant Violet *Viola* sp. There is rare Spurge Laurel *Daphne laureola*.

The western edge is fairly dense and hedge-like with abundant Blackthorn and frequent English Elm and Hawthorn. There is occasional Elder, Wild Privet and Field Maple and rare Buckthorn *Rhamnus catharticus*.

There is also a ditch running along this edge with frequent Wood False-brome *Brachypodium sylvaticum*. There is occasional Rough Chervil *Chaerophyllum temulentum* and Hedge Woundwort *Stachys sylvatica* and rare Brooklime *Veronica beccabunga*.

A public footpath runs along the western edge of the site.

17.) No access was possible to this site. Viewed from the road it appeared to be poor semi improved with *Arrhenatherum elatius*; *Dactylis glomerata* and common ragwort all observed.

18.) Poor semi improved grassland with a caravan site on the eastern half. It contained *Holcus lanatus*; *Arrhenatherum elatius*; *Dactylis glomerata*; and *Lolium perenne*. Creeping thistle; hemlock and meadowsweet were all frequent; with fig-leaved goosefoot ;great willowherb; common sorrel and common ragwort all present.

19.) Small semi improved grass behind a farm building; this area contains *Holcus lanatus*; *Dactylis glomerata*; *Phleum pratense*; *Lolium perenne*; *Elytrigia repens* and *Arrhenatherum elatius*. Common sorrel; prickly lettuce; nettles; prickly sow thistle and chickweed were all evenly distributed around the field.

20.) No access possible. Viewed from the road this field contains *Arrhenatherum elatius*; *Holcus lanatus* and *Dactylis glomerata*. Until recently this field was an old meadow but was ploughed up prior to development which has been denied permission. As a result it may be worth visiting this site again at an appropriate point to assess its value more accurately.

21.) Plantation of silver birch and hazel; with some mature oak and ash standards. At the south edge of the site there are a few sycamore. Ground flora is poor; with the edges having abundant bittersweet; while further into the woods it is dominated by ivy and nettles.

Visited on 06/07/09 by MD. Thin strip between road and hedge. Spurrey (sand?), bee orchin, black knapweed, musk mallow. Visited on 06/07/09 by MD. Narrow corridor through industrial estate along small stream, with a mix of habitat from willow carr, *Phragmites* beds to tall ruderal. Common knapweed, gypsywort, musk mallow, and common centaury noted. Visited on 07/07/09 by MD. Wild onion, stone parsley, hoary ragwort, musk mallow, yarrow, common centaury, common knapweed, sand spurrey. Habitat will soon be lost to

scrub. Visited on 07/07/09 by MD. This is said to have been an unimproved meadow around 12 years ago, and therefore may have an interesting seed bank. Visited on 07/07/09 by MD. Large patches of restharrow along ditch and hedge line. Visited on 01/02/10 by MF. Small poor semi-improved meadow probably used for grazing horses in spring/summer. Surveyed in winter: not a good time to identify species. Meadow contains creeping and bulbous buttercup, common nettle, selfheal, creeping thistle, goosegrass, curled dock, hogweed. Scrub encroaching along SE boundary. Visited on 01/02/10 by MF. Ash, alder and oak plantation. Also contains occasional elder. Visited on 01/02/10 by MF. Pond, largely silted up, with dead wood, and frozen over on day of visit. Island in centre with single mature beech tree in centre. Ash trees and saplings surround the pond. To the north of the pond are two rows of mature pollarded polar trees. Pond is said to contain common frog. Sparrowhawk sighted.

SP25B

1.) Poplar plantation with no understorey and a ground flora of scattered nettle and bramble with frequent *Juncus inflexus*; *Poa trivialis*; *Dactylis glomerata* and occasional *Deschampsia cespitosa*.

3.) Dismantled railway with frequent hawthorn and elder scrub with occasional blackthorn; field maple and traveller. Joy over *Poa trivialis*; *Dactylis glomerata* and locally frequent *Festuca rubra* and *Arrhenatherum elatius*. Forbs include ribwort plantain; selfheal and occasional perforate St. John's wort; red bartsia; centaury and weld.

Visited on 16/07/09 by LCS. No change. Visited on 16/07/09 by LCS. Semi-improved grassland on roadside bank, with black meddick and creeping cinquefoil. Visited on 16/07/09 by LCS. Unmown poor semi-improved grassland with yellow oat-grass, creeping thistle (F), ragwort (F), white campion (O), black meddick (O). Frequent butterflies. Visited on 16/07/09 by LCS. Strip of broad-leaved trees including sycamore and other *Acer* spp. Visited on 16/07/09 by LCS. New plantation. Part of "Bridgetown Community Woodland & Meadowlands". Visited on 16/07/09 by LCS. Poor semi-improved grassland which used to be arable. Species include common ragwort, hop trefoil, Yorkshire fog, yarrow mugwort, white clover, curled dock, lady's bedstraw, perforate St John's wort and poppy sp. Visited on 16/07/09 by LCS. New road - Trinity Way. Visited on 16/07/09 by LCS. Poor semi-improved grassland with similar composition to sp25b34. kestrel on wire. Visited on 16/07/09 by LCS. Pond surrounded by tall vegetation at margins and enclosed by a wooden fence. Species include meadowsweet, hogweed, great willowherb, yellow oat-grass, and some crack willow scrub. Visited on 16/07/09 by LCS. Very marshy wet area dominated by greater bulrush and willow scrub. Visited on 16/07/09 by LCS. Pond enclosed by a wooden fence with tall grass and tall ruderals at margin including rosebay willowherb and abundant willow scrub. Greater bulrush present in pond.

4.) Gappy hedge dominated by coppiced and pollarded willow with occasional hawthorn; elder; blackthorn and poplar.

Visited on 16/07/09 by LCS. Willow and hawthorn along brook. Grassy margins with good species diversity and emergent species including amphibious bistort, water figwort, soft rush and greater bulrush. Visited on 16/07/09 by LCS. Approx. 2-year-old planted trees. Visited on 16/07/09 by LCS. Footpath of poor semi-improved grassland and abundant tall ruderal species. Area dominated by creeping thistle at western end of path. Visited on 16/07/09 by LCS. Planted broad-leaved trees with rough grass understorey. Visited on 16/07/09 by LCS. Planted broad-leaved trees with rough grass understorey. Visited on 16/07/09 by LCS. Small section of brook with ash, elder, field

maple, bramble and hawthorn. Visited on 16/07/09 by LCS. Small section of scrub, which includes an oak with bat potential. Visited on 16/07/09 by LCS. Very gappy laid hawthorn hedge with frequent mature oaks. Visited on 16/07/09 by LCS. Trimmed hedge including honeysuckle, bittersweet, and field maple adjacent to wet ditch. Visited on 16/07/09 by LCS. Murky pond which is full of duckweed. surrounded by willow, crab apple, hawthorn and elder on bare soil with no visible marginal herbs. Visited on 16/07/09 by LCS. Speckled wood seen by hedge.

5.) Rough semi-improved grassland with scattered hawthorn scrub and dominated by *Arrhenatherum elatius*; *Dactylis glomerata* with occasional *Holcus lanatus* and *Festuca rubra*. There is scattered bramble and dog rose with frequent ribwort plantain; creeping cinquefoil and yarrow and occasional horse radish; mugwort; white campion; cow parsley; hogweed; tansy and nettle.

Visited on 16/07/09 by LCS. As before. Scattered hawthorn and *Rosa* sp. scrub over semi-improved grassland, surrounded by wooden fence. Visited on 16/07/09 by LCS. Species rich short-mown road verge with bird's-foot-trefoil, creeping cinquefoil, ribwort plantain, common knapweed, selfheal, black meddick, and lady's bedstraw. Visited on 16/07/09 by LCS. Plot of land which is up for development. Consists of poor semi-improved grassland with encroaching scrub. Species include purple toadflax, selfheal, common ragwort, vetch sp, common nettle and cocksfoot and oak saplings. Gatekeeper recorded. Visited on 16/07/09 by LCS. Strip of planted scrub along roadside, likely to have been planted at same time as new housing development and road (3 or 4 years). Species are mainly dogwood, privet, ash, oak, willow, and hazel. Short-cut road verge adjacent, approx. 5 m wide.

6.) Poor semi-improved pasture with frequent *Poa* spp.; *Dactylis glomerata*; *Arrhenatherum elatius*; *Lolium perenne* and *Elytrigia repens* and occasional *Deschampsia cespitosa*; *Festuca rubra*; *Agrostis tenuis*; *Phleum pratense* and *Cynosurus cristatus*. There are scattered creeping thistle and nettle with occasional white clover; creeping cinquefoil; dove's-foot crane's-bill; meadow buttercup and bulbous buttercup. Cattle grazed.

Surveyed 19/10/1998

Visited on 22/07/09 by LH. Poor semi-improved grassland with field bindweed, white clover, (O) red clover, dandelion, (O) creeping cinquefoil, ribwort plantain, thistle, (R) yarrow, black meddick, common sorrel. Old hedge to west is linear hawthorn trees with some dog rose.

7.) Strip of semi-improved grassland along a narrow south facing slope with frequent creeping and spear thistle; creeping cinquefoil; meadow buttercup and occasional red clover. Grasses include frequent *Poa pratensis*; *Poa trivialis*; *Dactylis glomerata*; *Festuca rubra* and occasional *Agrostis tenuis* and *Cynosurus cristatus*.

Surveyed 19/10/1998.

Resurveyed 22/07/2009. No change. Species similar to that in field to north in sp25b6, but forbes are more frequent and also include selfheal and greater bird's-foot trefoil.

8.) Dense hawthorn scrub with occasional elder and blackthorn.

Surveyed 19/10/1998.

Resurveyed 22/07/2009. No change. An increase of more mature broad-leaved trees to SW end.

9.) Semi-improved grassland with frequent creeping and spear thistle; creeping cinquefoil; meadow buttercup and occasional red clover and woolly thistle. Grasses include frequent *Poa pratensis*; *Poa trivialis*; *Dactylis glomerata*; *Festuca rubra* and occasional *Agrostis tenuis* and *Cynosurus cristatus*.

Visited on 22/07/09 by LH. (O) Creeping cinquefoil, (F) thistle, (O) creeping buttercup, (O) nettle, (O) white clover.

10.) Poor semi-improved pasture with frequent *Poa* spp.; *Dactylis glomerata*; *Arrhenatherum elatius*; *Lolium perenne* and *Elytrigia repens* and occasional *Deschampsia cespitosa*; *Festuca rubra*; *Agrostis tenuis*; *Phleum pratense* and *Cynosurus cristatus*. There are scattered creeping thistle and nettle with occasional white clover; creeping cinquefoil; dove's-foot crane's-bill; meadow buttercup and bulbous buttercup. Cattle grazed.

Visited on 22/07/09 by LH. Poor semi-improved grassland. (F) white clover, (O) red clover, bird's-foot-trefoil, common chickweed, cat's-ear, field bindweed.

11.) Scattered hawthorn scrub with occasional dog rose and broom over *Poa trivialis*; *Dactylis glomerata*; *Festuca rubra* and occasional *Holcus lanatus*; *Arrhenatherum elatius*; *Elytrigia repens*.

12.) Poplar plantation with no understorey and a ground flora of scattered nettle and bramble with frequent *Juncus inflexus*; *Poa trivialis*; *Dactylis glomerata* and occasional *Deschampsia cespitosa*.

13.) Ash woodland over dense hawthorn; elder and blackthorn.

14.) Small mature orchard at the rear of a farm.

15.) Poor semi-improved grassland.

16.) Rabbit grazed semi-improved grassland along the route of a dismantled railway line. Contains abundant *Poa pratensis*; ribwort plantain; *Agrostis capillaris*; creeping cinquefoil with yarrow; red clover; common vetch; white dead nettle; ground ivy; lesser knapweed; cow parsley and bird's foot trefoil. The line passes through a shallow cutting flanked by hawthorn with blackthorn; bramble; dog rose; willow; elder and locally abundant ash. Nettle become locally dominant here although the north facing bank include locally abundant cowslip and *Brachypodium sylvaticum*.

Visited on 16/07/09 by LCS. No change.

17.) Out grown hedge along a wet ditch containing hawthorn; crab apple; blackthorn; field maple; dog rose with mature oak; ash and willow.

Visited on 16/07/09 by LCS. Details confirmed.

18.) Species rich bank which includes abundant yarrow; lesser knapweed; bush and common vetch; ribwort plantain; lesser trefoil; zig-zag clover; meadow and creeping buttercup and germander speedwell. SP25B

19.) Old hedgerows, now predominately linear trees of hawthorn, with some dog rose, linear scrub on west side of triangle of bramble.

Surveyed 22/07/2009. 2.) Poor semi-improved cattle grazed meadow over ridge and furrow; dominated by *Cynosurus cristatus* and *Poa pratensis* with occasional *Dactylis glomerata*; *Festuca rubra* and *Hordeum secalinum*. Forbs are scarce but include occasional sorrel; great and ribwort plantain and autumn hawkbit.

20.) 16/07/2009, LCS: Poor semi-improved grassland which has been left unmown. This field is part of "Bridgetown Community Woodland and Meadowlands", a 2005 scheme to create a mosaic of habitats. This field includes Yorkshire fog, common bent, false oat grass, field horsetail, common ragwort, spear thistle, hairy tare, great willowherb, broad-leaved dock and St John's wort sp. Cinnabar moth caterpillars present.

21.) 16/07/2009, LCS: This field is part of "Bridgetown Community Woodland and Meadowlands", a 2005 scheme to create a mosaic of habitats. Tussocky grassland with scattered hawthorn saplings and forbs including hairy tare, yarrow, field horsetail, ragwort, white campion, common mallow and field bindweed. Dominated by grasses including

Yorkshire fog and Cock's-foot. Several paths through the field used frequently by dog walkers and for recreation.

22.) 16/07/2009, LCS: Scattered planted scrub with frequent common thistle. Planted scrub species include frequent *Rosa* sp, guelder rose, blackthorn, cherry, broom and spindle.

23.) 16/07/2009, LCS: Pond. Marginal vegetation includes soft rush, figwort, yellow flag, meadowsweet and willow, with two large stands of greater reedmace emergent. Butterflies frequent including a skipper species. Around the eastern edge of the pond is a thin strip of improved grassland.

24.) 16/07/2009, LCS: Area surrounding pond contains a mix of tall ruderal species such as mugwort and creeping thistle, grasses, herbs and planted scrub.

25.) 16/07/2009, LCS: This area is part of "Bridgetown Community Woodland and Meadowlands", a 2005 scheme to create a mosaic of habitats. Poor semi-improved grassland with species including St John's wort, creeping thistle and tare sp. Butterflies frequent including gatekeeper, small tortoiseshell, meadow brown and large white.

26.) 16/07/2009, LCS: Wet ditch with rough grassy banks and containing brooklime, meadowsweet, greater reedmace and great willowherb. Visited on 22/07/09 by LH. See target note sp25b6.

Semi-improved neutral grassland with field bindweed, white clover, (O) red clover, dandelion, (O) creeping ciquefoil, ribwort plantain, thistle, (R) yarrow, black meddick, common sorrel. Old hedge to west is linear hawthorn trees with some dog rose. Also selfheal and bird's-foot-trefoil. Visited on 16/07/09 by LCS. Newly created pond in good condition and with little shading. Surrounded by tall grasses and herbs including meadow vetchling and meadowsweet plus a wooden fence. *Potamogeton* sp present, plus figwort, soft rush and marginal greater reedmace. Visited on 16/07/09 by LCS. New plantation. Part of "Bridgetown Community Woodland & Meadowlands". Dominated by planted dogwood and oak.

SP25C

1.) Tall rank grassland dominated by *Dactylis glomerata* and *Holcus lanatus* with abundant to locally dominant *Festuca rubra*; ragwort; frequent thistle; *Alopecurus pratensis* and creeping buttercup. Hemlock and nettle are locally abundant to co-dominant near the roadside and along the river; which also includes wintercress; great willowherb; purple loosestrife; teasel and patches of lesser celandine. Part of the area is currently being dug up in preparation for the installation of a water pipeline.

2.) Semi-improved grassland dominated by *Arrhenatherum elatius* with frequent lesser celandine; some patches of teasel; dock; *Carex hirta*; creeping buttercup with patches of hemlock; nettle and thistle along the river's edge and raised bank. Area extensively rabbit grazed although annual mowing has recently been introduced. Potential rich but requiring further survey work.

3.) Rank unmanaged semi-improved grassland dominated by *Dactylis glomerata*; *Arrhenatherum elatius*; *Holcus lanatus* with abundant cow parsley; creeping buttercup; locally abundant lesser celandine; cleavers; hogweed; ragwort; sorrel; *Carex hirta* with extensive patches of meadowsweet; teasel and nettle. *Phragmites australis*; bur-dock; purple loosestrife; great willowherb; purple loosestrife; hemlock and locally dominant nettle occur along the river bank.

4.) Extensive marsh area mainly dominated by great willowherb with locally dominant nettle and *Elytrigia repens*. Includes locally abundant *Carex hirta*; *Juncus effusus*; teasel; sorrel; lesser celandine; ground ivy and meadowsweet

with a small area of *Phragmites australis* swamp within a drainage complex. The area is generally unmanaged and rank and is bounded by a wooded ditch containing mature crack willow; elder; hawthorn and a considerable amount of dead wood.

5.) Complex wet area which contains *Carex peniculata* dominated swamp with *Juncus effusus* and *Carex pendula* which is surrounded by inundation dominated by silverweed and creeping buttercup. The whole area is enclosed by wet great willowherb dominated marsh which also includes *Juncus effusus*; *Juncus inflexus*; *Phalaris arundinacea*; nettle; ground ivy and patches of hemlock. Possible evidence of otter (i.e. presence of frog ovary-ducts).

6.) Very area with inter-connecting drainage ditches (some heavily vegetated with *Typha latifolia*); a large pool; low willow and hawthorn scrub; *Carex acutiformis* swamp; great willowherb dominated marsh and extensive areas nettle. Other species include hemlock; purple loosestrife; teasel and wintercress. Small areas of broadleaf plantation occur as well as scatter trees such as holly; pine and cypress.

7.) Area of compacted ephemeral ground dominated by bryophytes with annual grasses; procumbent pearlwort; doveÆs foot cranesbill; chickweed; field forget-me-not; ribwort plantain with some great mullein in areas where rubble occurs; teasel; thistle; ground ivy; perforate st johnÆs wort. There is a transition into *Juncus inflexus* dominated marsh (probably due to impeded drainage) with *Juncus effusus*; purple loosestrife and some *Carex acutiformis*. Poor heavily rabbit grazed semi-improved grassland occurs extensively which is often lined with linear blocks of tree planting.

8.) Large area of poor semi-improved grassland with abundant nettle; thistle; bristly ox-tongue? ground ivy and patches of weld; common mouse-ear; clover and teasel. The area appears to be mown but is also intensively rabbit grazed.

SP25D

1.) Species-poor semi-improved grassland; lightly horse-grazed. *Cynosurus cristatus* abundant with frequent *Arrhenatherum elatius*; *Holcus lanatus*; *Agrostis capillaris*; creeping thistle and curled dock. Also present are *Phleum pratense*; *Dactylis glomerata*; *Festuca rubra*; spear thistle; ribwort plantain; meadow; bulbous and creeping buttercup; smooth hawksbeard; and occasional red clover; selfheal; common sorrel; catsear; creeping cinquefoil; common vetch and common mouseear. Ladies bedstraw is found in the eastern field. This area has declined in species-richness since a 1993 survey.

2.) Horse-grazed pasture with scattered rose and hawthorn scrub. Species-rich in places; particularly to the south; with wild carrot; red and white clover; agrimony; meadow buttercup; selfheal; birdsfoot trefoil; ribwort plantain and creeping cinquefoil. Elsewhere; field bindweed; curled dock and spear thistle are abundant. Grasses include abundant *Holcus lanatus* and *Cynosurus cristatus* and *Festuca rubra*; *Agrostis capillaris*; *Dactylis glomerata* and *Arrhenatherum elatius*.

3.) Tussocky grassland dominated by *Dactylis glomerata* and *Arrhenatherum elatius* with abundant *Festuca rubra*; *Agrostis capillaris* and *Phleum pratense*. White clover; spear thistle and ribwort plantain are frequent and ladies bedstraw; red clover; black medick; restharrow; catsear; smooth hawksbeard; birdsfoot trefoil; goatsbeard; *Trisetum flavescens* and *Cynosurus cristatus* occasional. Field bindweed is locally abundant. The area is being invaded by

hawthorn and blackthorn scrub. Yellow anthills present and green woodpeckers active. Cattle have access from neighbouring improved pasture but do not appear to graze this area.

4.) Ash woodland; originating as 19th century plantation. Ash are now scattered and support much dead wood. The understorey contains hawthorn; wild privet; elder; dog rose; blackthorn; English elm to the south; and occasional young sycamore; gean; field maple and wayfaring tree. The ground flora includes abundant bramble; ivy; violet spp.; ground ivy and *Bromus ramosus* with *Brachypodium sylvaticum*; wood avens; hedge woundwort; burdock and nettle. Bracket fungi are frequent on dead wood.

5.) Closely grazed grassland (cattle and rabbits) with areas of hawthorn scrub.

Slopes are the most species-rich with *Cynosurus cristatus*; *Lolium perenne* and *Agrostis capillaris* abundant with *Anthoxanthum odoratum*; *Trisetum flavescens*; *Holcus lanatus*; *Dactylis glomerata*; *Phleum bertolonii* and *Poa trivialis*.

Forbs; with high cover in places; include abundant selfheal; black medick; ribwort plantain; catsear; daisy and birdsfoot trefoil with frequent *Carex flacca*; yarrow; agrimony; knapweed; bulbous and meadow buttercup; rough hawkbit; white and red clover and creeping cinquefoil. Ladies bedstraw is occasional especially on anthills and woolly thistle; *Brachypodium pinnatum* and *Hordeum secalinum* present towards the more calcareous area to the north. Stands of creeping thistle occur in places and here the sward is ranker and less species-rich with abundant *Holcus lanatus* and common sorrel. *Briza media* was also recorded in 1993.

6.) Ride with a similar flora to target note 5; edged by hawthorn; bramble; nettle and spear thistle. Heavily poached in places. Bee orchid was recorded in good numbers at ride edges in 1993 but was not seen on this occasion. Adders tongue has been recorded here in the past.

7.) Mature hawthorn scrub. Cattle have access and woodland regeneration is prevented. The ground flora is very poor with much bare; poached ground and includes scattered nettle; wood avens; violet spp.; burdock; enchanters nightshade and *Holcus lanatus*.

8.) Heavily poached area on a steep calcareous slope with much hawthorn scrub.

Brachypodium pinnatum is abundant; forming large tussocks with *Cynosurus cristatus*; *Lolium perenne*; *Phleum bertolonii*; *Anthoxanthum odoratum* and *Agrostis capillaris*. Agrimony and restharrow are frequent and dwarf thistle; lesser knapweed; red clover; creeping cinquefoil; catsear; black medick; selfheal and hoary plantain also present.

9.) Open ash; oak; horse chestnut and common lime woodland; originating as 19th century plantation; grading downslope into mature hawthorn scrub with occasional elder and English elm. Beneath the trees the ground flora contains grassland species; though it is less species-rich than the grassland elsewhere.

Cattle have access and much of the ground beneath the scrub is bare. Nettle; ground ivy; wood avens; violet spp.; wood dock and burdock are present in places.

10.) Open ash; oak; sycamore; horse chestnut and larch woodland over species-poor grassland and scattered hawthorn and dog rose.

11.) Ash woodland with scattered horse chestnut; beech; common lime and hornbeam which were planted between 170 and 100 years ago. Dense thickets of hawthorn; dog rose; elder and bramble contain much young ash; occasional field maple and sycamore and; locally; hornbeam. Cattle have access and prevent

regeneration elsewhere and there are signs of mountain/scrambler bike damage. Three small fenced enclosure contain densely spaced mixed broad-leaved species planted in the mid 1980s. Ground flora species include *Brachypodium sylvaticum*; ground ivy; violet spp. and herb robert.

12.) Small area of oak woodland over scattered hawthorn and bramble; much disturbed by cattle; rabbits and public use. The ground flora is nettle dominated with ground ivy; burdock; wood avens and occasional lords-and-ladies.

13.) Grassland with scattered hawthorn scrub and much creeping thistle. *Cynosurus cristatus*; *Holcus lanatus*; *Anthoxanthum odoratum*; *Agrostis capillaris* and ribwort plantain are abundant with scattered red clover; selfheal; smooth hawksbeard; white clover; black medick; creeping cinquefoil; catsear; ladies bedstraw and *Phleum bertolonii*. Agrimony and rough hawkbit are found where the community grades into the more calcareous grassland to the south. many yellow ant hills present.

14.) Ridge and furrow grassland with scattered hawthorn scrub and much spear thistle. *Cynosurus cristatus* and *Agrostis capillaris* are abundant with *Holcus lanatus*; *Anthoxanthum odoratum* and *Festuca rubra*. Meadow and bulbous buttercup and red clover are frequent with white clover; common sorrel; ribwort plantain; black medick and selfheal. Catsear; birdsfoot trefoil and ladies bedstraw are also present; especially on the many anthills.

15.) Fifteen year old broadleaf plantation; densely spaced and fringed by mature ash and Corsican pine and with a few mature oak and ash and sycamore stools regenerating from past felling. The most abundant planted species are oak; field maple and ash. Sycamore; alder; Scots pine; hazel; box; guelder rose and spindle are among others present. The ground flora is dominated by nettle with abundant *Dactylis glomerata* and *Holcus lanatus* and frequent thistles and bramble. Small patches of bluebell and lesser celandine were also recorded in 1994.

16.) Semi-improved sheep grazed pasture on ridge and furrow dominated by *Cynosurus cristatus* with *Poa trivialis* and occasional *Dactylis glomerata* and *Festuca rubra*. Forbs include frequent daisy; bulbous buttercup and white clover with occasional red clover; mouse-ear; cow parsley; autumn hawkbit; ladyÆs bedstraw; creeping thistle and spear thistle.

17.) Rough semi-improved grassland dominated by *Arrhenatherum elatius*; *Dactylis glomerata*; *Holcus lanatus* with *Poa trivialis* and *Festuca rubra*. There is scattered creeping cinquefoil with nettle; creeping thistle and broad-leaved dock.

18.) Mature ash plantation with occasional poplar and horse chestnut with little understorey other than occasional elder and hawthorn over nettle; ivy and ground ivy.

19.) Neglected semi-improved grassland on south facing slope dominated by *Dactylis glomerata* with *Arrhenatherum elatius* and occasional *Brachypodium pinnatum*; *Poa trivialis* and *Festuca rubra*. *Deschampsia cespitosa* and *Holcus lanatus* are co-dominant on the lower half of the slope. There is scattered hawthorn and bramble scrub (dense in places) with dog rose. There are frequent bulbous buttercup; black medick; sorrel and occasional selfheal; greater knapweed; meadow vetchling; meadow buttercup; ladyÆs bedstraw and agrimony. There are numerous anthills and much evidence of badger activity.

20.) Area of previous landslip on south facing slope. Neglected semi-improved grassland now largely over grown by hawthorn; dog rose and bramble with an

- extensive patch of dwarf elder and occasional field maple; planted willow and oak. The grassland between contains frequently *Dactylis glomerata*; *Holcus lanatus*; *Deschampsia cespitosa*; *Brachypodium pinnatum* and occasional *Arrhenatherum elatius*; *Poa trivialis* and *Festuca rubra*. Forbs include hedge bedstraw; lady's bedstraw; ground ivy and occasional meadow vetchling and agrimony. There are numerous anthills and much evidence of badger activity.
- 21.) Ash woodland with occasional sycamore and horse chestnut over uneven understorey of hawthorn and elder and a ground flora dominated by ivy; nettle; bramble and ground ivy.
- 22.) Mixed plantation of horse chestnut; ash; sycamore; spruce; pine; cedar with occasional oak; beech and lime.
- 23.) Mostly ash woodland with occasional oak over elder and hawthorn gappy in places allowing nettle and rosebay willowherb. Elsewhere *Poa trivialis* and *Dactylis glomerata* dominated with ground ivy; red campion; wood avens and occasional *Brachypodium sylvaticum*; *Bromus ramosus*; bluebell and *Dryopteris filix-mas*.
- 24.) Site of a mostly dried up pond covered by willow scrub with alder and elder. Extensive patch of *Carex* sp. to the north.
- 25.) Oak woodland with ash and an understorey of hawthorn and occasional elder; hazel; field maple and wild privet. Buckthorn can be found along the southern edge. The ground flora is comprised of bramble; ivy and ground ivy with occasional bluebell; dog violet; *Dryopteris filix-mas*; *Brachypodium sylvaticum*; *Bromus ramosus* and *Deschampsia cespitosa*.
- 26.) Barrow strip of scattered mature oak over hawthorn and young elm. The ground flora contains frequent bramble; ground ivy; wood avens; *Bromus ramosus* and occasional *Brachypodium sylvaticum*; *Dactylis glomerata*; *Poa trivialis*; *Hieracium* sp.; hedge woundwort and locally frequent hairy violet.
- 27.) Ash; oak and sycamore plantation which is open to sheep grazing and has been for some time. The strip of woodland is in severe decline and lacks an understorey; the ground flora is mainly grasses and many of the trees are diseased or dead.
- 28.) Poor semi-improved grassland dominated by *Dactylis glomerata* and *Arrhenatherum elatius* with abundant nettle. Includes some very mature oak. Access restricted and therefore full assessment hampered.
- 29.) Caravan park which occurs either side of the River Avon.

SP25G

- 1.) An area of mixed plantation with frequent pine; spruce; ash and turkey oak over patchy rhododendron; holly and snowberry.
- 2.) A narrow belt of mixed plantation of fir; cedar; pine; horse chestnut and beech with poplar along the field edge. The canopy is quite dense allowing only a patchy understorey of hawthorn; blackthorn and areas of introduced shrubs such as rhododendron and snowberry. Stinking hellebore has been recorded in the wood but was not seen during the survey.
- 3.) Mixed plantation of fir; cedar; pine; poplar; horse chestnut and beech. The canopy is quite dense allowing only a patchy understorey of introduced shrubs such as rhododendron and snowberry.
- 4.) A young mixed plantation with fir; cedar; pine; poplar; horse chestnut and beech.
- 5.) Mature broad-leaved plantation of turkey oak with occasional ash and

sycamore over an understorey of hawthorn; young elm and occasional field maple.

There is much wild privet and dogwood along the road side. The understorey is dense allowing only patchy ivy and occasional *Poa trivialis*; *Bromus ramosus* ground ivy and garlic mustard in the infrequent small clearings.

6.) Narrow road verge of *Poa* spp.; *Dactylis glomerata*; *Arrhenatherum elatius* and occasional *Brachypodium pinnatum* and *Festuca rubra*. Herbs include creeping cinquefoil and occasional black knapweed; agrimony and silverweed.

7.) Mixed plantation of ash; oak and pine. A sparse understorey of hawthorn; elder; blackthorn and occasional field maple occurs in the predominantly broad-leaved areas with some spindle; dogwood; elm and wild privet found along the southern edge.

SP25H

1.) Young mixed plantation of fir; western red cedar; pine; larch; horse chestnut and beech with little or no ground flora beneath.

Surveyed 27/08/1998.

Resurveyed 22/07/2009. No change. 2.) New broad-leaved plantation of cherry; rowan; willow and field maple over

rough semi-improved grassland dominated by *Arrhenatherum elatius* with *Dactylis glomerata* and *Holcus lanatus* and occasional *Poa trivialis* and *Festuca rubra*.

There are scattered ragwort; broad-leaved dock and creeping thistle with ribwort plantain and occasional meadow buttercup. Some regularly mown paths contain frequent autumn hawkbit and doveÆs-foot craneÆs-bill.

3.) Shallow eutrophic pond with occasional (planted) white water-lily with small stands of yellow flag iris and *Schoenoplectus lacustris*.

4.) Fenced area of semi-improved grassland with frequent *Arrhenatherum elatius*; *Dactylis glomerata*; *Holcus lanatus* and *Poa trivialis* and occasional *Agrostis stolonifera* and *Festuca rubra*. Forbs are limited to frequent ribwort plantain; creeping cinquefoil; yarrow and occasional mallow; broad-leaved dock and field bindweed.

Visited on 16/9/9 by MF. Include following forbs: common mouse-ear, curved dock, common nettle, meadow creane's-bill, creeping thistle, common sorrel, common mallow, daisy, creeping buttercup, bulbous buttercup. 5.) Area of semi-improved grassland with frequent *Arrhenatherum elatius*;

Dactylis glomerata; *Holcus lanatus* and *Poa trivialis* and occasional *Agrostis stolonifera* and *Festuca rubra*. Forbs are limited to frequent ribwort plantain; creeping cinquefoil; yarrow and occasional mallow; broad-leaved dock and field bindweed.

6.) Neglected area to the rear of a dilapidated farm building. Contains a mosaic of dense bramble; nettle and *Dactylis glomerata* dominated grassland.

Area includes a very extensive and active badger sett.

Visited on 16/09/09 by MF. Poor semi-improved grassland, neglected meadow. A footpath runs through it to a new sports ground. Forbs present include red clover, curled dock, mugwort, autumn hawkbit, cat's-ear, ribwort plantain, scentless mayweed, creeping thistle.

8.) Rarely used farm track, now public footpath. Semi-improved neutral grassland.

Species include wild carrot, meadow vetchling, pale st. John's wort, creeping cinquefoil, greater knapweed, ribwort plantain, white campion and common mallow. Small skipper butterfly also seen.

Surveyed 08/07/2009.

SP25I

1.) Graveyard. Mown for the most part but with an area of uncut semi-improved grassland dominated by *Arrhenatherum elatius*; *Dactylis glomerata* and *Holcus lanatus* with occasional *Poa trivialis* and *Festuca rubra*. Forbs include field bindweed and occasional meadow vetchling; nettle and creeping thistle.

From SINC survey:

Surveyors: C. Cholerton Date: 27/05/02

A field of rank unmanaged semi-improved grassland. There are two areas dominated by Common Sorrel. The rest is dominated by Cow Parsley and Nettle. There is one locally abundant patch of Pignut *Conopodium majus*, with rare Germander Speedwell and Lesser Stitchwort *Stellaria graminea*.

There is also abundant False Oat-grass with frequent Meadow Foxtail and Cock's-foot. Along the pathway Rough Meadow-grass is abundant with rare Soft Brome *Bromus mollis*.

2.) Area of apparently unmanaged rank grassland dominated by *Arrhenatherum elatius* with frequent *Dactylis glomerata* and *Holcus lanatus* and occasional *Poa trivialis* and *Festuca rubra*. There is frequent field bindweed; sorrel; yarrow and occasional meadow buttercup as well as scattered creeping thistle and nettle.

from SINC survey:

Surveyors: C. Cholerton

Date: 27/05/02

Alveston Old Churchyard is now disused. There is a public footpath along the southern edge of the site.

This semi-improved grassland is mown but not intensively. On day of visit sward was about 12-18 inches high comprising abundant Rough Meadow Grass *Poa trivialis*, with frequent Cock's-foot *Dactylis glomerata*, False Oat-grass *Arrhenatherum elatius* and Yorkshire Fog *Holcus lanatus*. There was occasional Meadow Foxtail *Alopecurus pratensis* are rare Sweet Vernal-grass *Anthoxanthum odoratum*.

Herbs include abundant Daisy *Bellis perennis* with frequent White Clover *Trifolium repens*, Lesser Trefoil *Trifolium dubium*, and Meadow Buttercup *Ranunculus acris* and occasional Germander Speedwell *Veronica chamaedrys* and rare Lady's Bedstraw *Galium verum*, Common Sorrel *Rumex acetosa* and Common Cat's-ear *Hypochoeris radicata*. There are abundant Nettles *Urtica dioica* around the edges of the graveyard with frequent Green Alkanet *Pentaglottis sempervirens*. There is a small area left uncut with abundant nettles, Cow Parsley *Anthriscus sylvestris* and False Oat-grass and frequent Bramble *Rubus fruticosus*.

There are five mature Common Lime *Tilia vulgaris* trees along the roadside boundary.

3.) Old orchard with few apple trees left and recently planted cherry and hazel over *Arrhenatherum elatius* dominated grassland with nettle.

4.) Poor horse grazed pasture with areas of nettle; broad-leaved dock and creeping thistle.

5.) Churchyard. Mostly amenity with a few small areas left uncut with scattered holly; beech and conifers. The grasses are dominated by *Arrhenatherum elatius* with *Poa* spp and *Dactylis glomerata* with occasional *Festuca rubra*. Forbs in the mown areas include frequent autumn hawkbit; daisy;

- white clover; *Rhytidadelphus squarrosus* and occasional cat's ear; ox-eye daisy; germander speedwell; primrose and selfheal. In the uncut sections black medick; cow parsley; *Equisetum arvense* and creeping cinquefoil can be found.
- 6.) A strip of nettles and hemlock alongside the River Avon bordered on the other side by beech; sycamore and willow with occasional elder.
- 7.) An island between the River Avon and a side channel (Alveston sluice) cover by mature beech plantation with occasional sycamore and ash. There is little to no understorey or ground flora.
- 8.) Small copse of oak with occasional ash over an understorey of hawthorn and elder with blackthorn and young elder along the road side. To the north there is a young broad-leaved plantation of sycamore; rowan and horse chestnut over bramble and
- 9.) Road verge dominated by *Arrhenatherum elatius* with occasional *Dactylis glomerata*; *Festuca rubra* and *Poa trivialis*. Forbs include frequent creeping cinquefoil; red clover; black knapweed; ribwort plantain and autumn hawkbit with occasional field rose; meadow vetchling and agronomy
- 10.) A copse of ash with occasional oak over young elm; elder and occasional field maple. The canopy and understorey are quite dense allowing little ground flora other than ivy and small patches of *Poa trivialis* and *Dactylis glomerata*. The adjacent road side verge is dominated by nettle and hogweed.
- 11.) Hatton Rock. A steep south facing slope on the north bank of the River Avon largely covered by hawthorn and elder scrub over ground ivy and nettle patches with occasional wood avens; dog violet; *Brachypodium sylvaticum* and *Bromus ramosus*.
- 12.) Gully overhung by elder and occasional willow with frequent ivy; *Dryopteris filix-mas* and *Asplenium scolopendrium*.
- 13.) An area of tall ruderal on the Avon flood plain with extensive patches of giant hogweed and nettle; with *Phragmites australis* along the river bank.
- 14.) An area of willow and alder carr on the Avon flood plain over nettle and scattered giant hogweed.
- 15.) Broad-leaved woodland of ash with occasional willow; oak and alder. The canopy and understorey are dense allowing little ground flora other than ivy and nettle.
- 16.) Poor semi-improved grassland; recently cut at the time of survey but containing frequent *Poa* spp.; *Dactylis glomerata* and *Holcus lanatus*. Cow parsley is common around the margins with cat's ear; dandelion; sorrel and creeping buttercup frequent throughout. Occasional red clover and meadow buttercup can be found especially to the north.
- 17.) A small island now only separated from the adjacent field by *Typha latifolia* swamp with locally frequent *Phalaris arundinacea*; *Phragmites australis* and willow scrub. The island itself is covered by nettle with occasional burdock and giant hogweed.
- 18.) A small patch of *Rhytidadelphus squarrosus* dominated slope with frequent germander speedwell; perforate St. John's wort; primrose and occasional dog violet; selfheal; common centaury; *Carex* sp.; barren strawberry; *Eurhynchium praelongum*; *Asplenium scolopendrium* and petty spurge.
- 19.) An area of broad-leaved plantation of oak; ash and sycamore over hawthorn and occasional elder; holly and hazel and some patches of rhododendron and snowberry. The ground cover is dominated by ivy with frequent herb Robert; *Eurhynchium praelongum* and occasional *Dryopteris filix-mas*; primrose; *Thuidium*

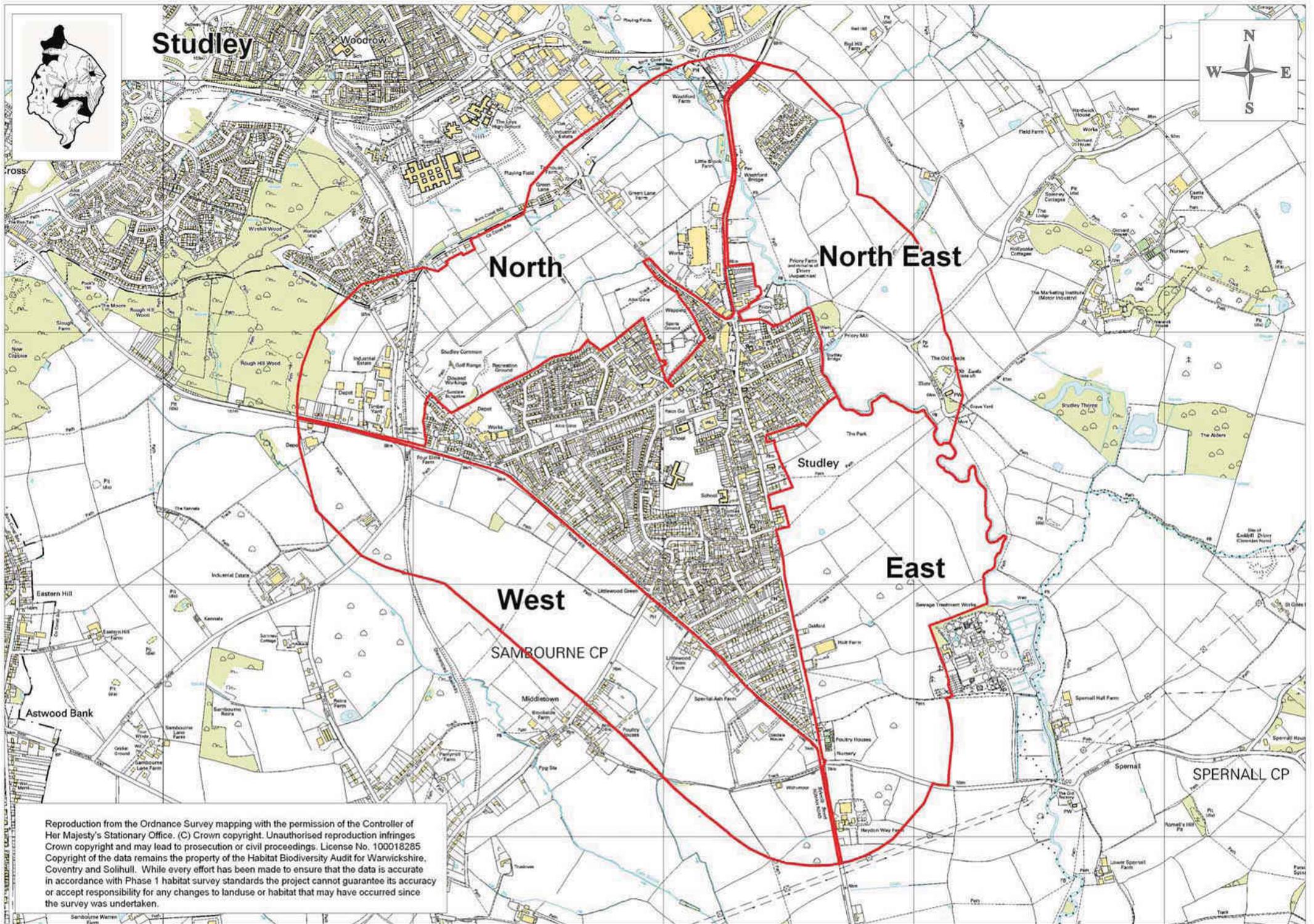
tamariscinum and *Asplenium scolopendrium*.

20.) An area of willow and alder carr on boggy ground over frequent nettle; *Typha latifolia* and occasional giant hogweed.

21.) A largely silted up lake dominated by *Typha latifolia*. A small stream still flows through the centre with frequent brooklime; water mint and monkey flower.

22.) An area of hawthorn; elder and blackthorn scrub with occasional young oak over frequent teasel; perforate St. John's wort; bramble and Japanese knotweed and occasional *Brachypodium sylvaticum* and *Mentha* sp..

23.) Broad-leaved woodland of oak and ash with willow along the stream side over an understorey of hawthorn and elder. The ground flora is patchy and includes frequent nettle and ground ivy and occasional *Brachypodium sylvaticum*; wood avens and lords and ladies.



Studley

North

North East

East

West

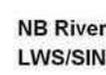
SAMBOURNE CP

SPERNALL CP

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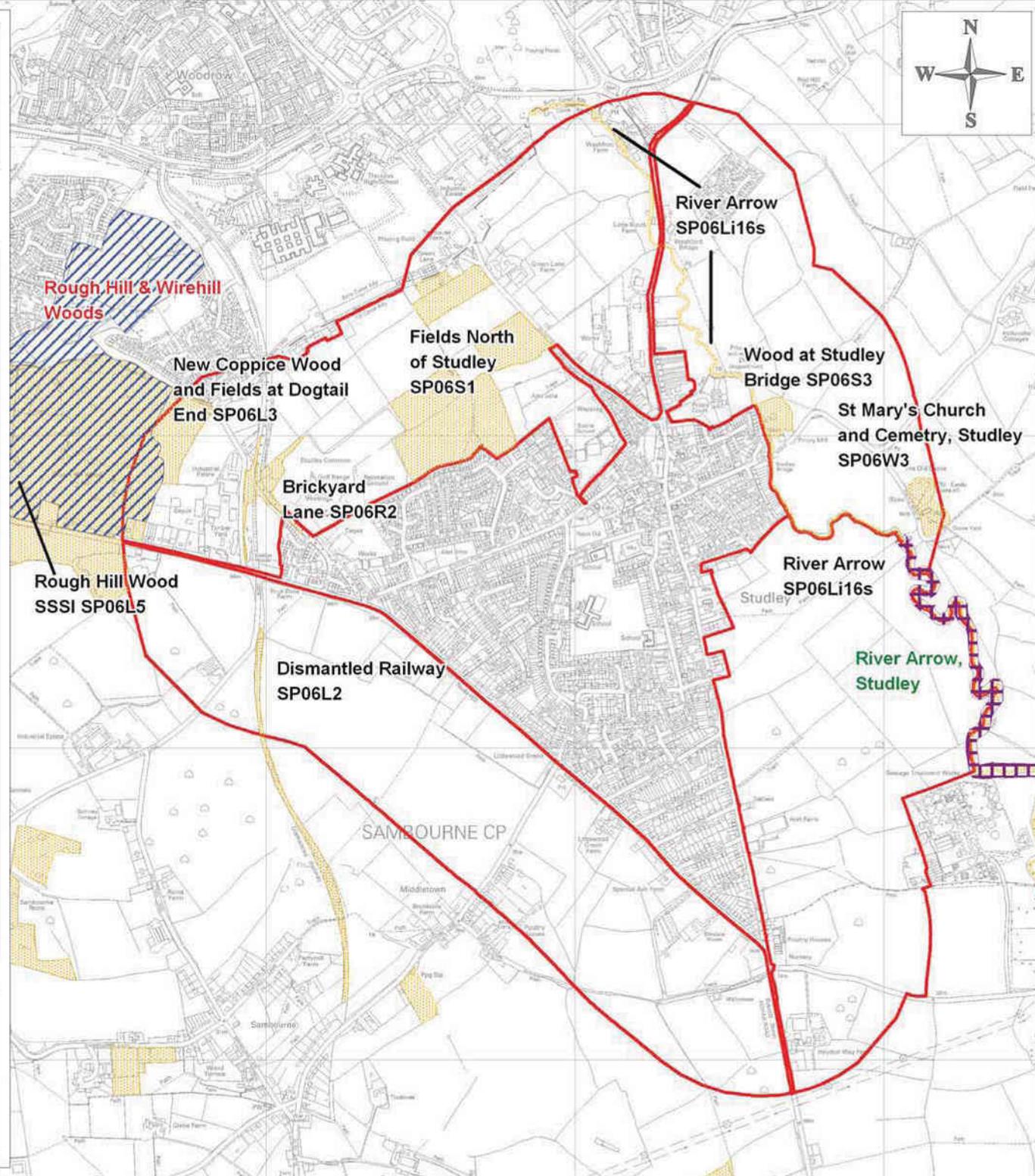


Studley Local Sites

-  Potential Local Wildlife Site (pLWS/SINC)
-  Local Wildlife Site (LWS/SINC)
-  Rejected potential Local Wildlife Site
-  Destroyed Local Wildlife Site
-  SSSI
-  RIGS
-  LNR

NB River Arrow has now been designated as Linear LWS/SINC and is awaiting digitisation in mid to late 2010.

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Studley - HBA

Phase I Habitat Survey

Habitat Types

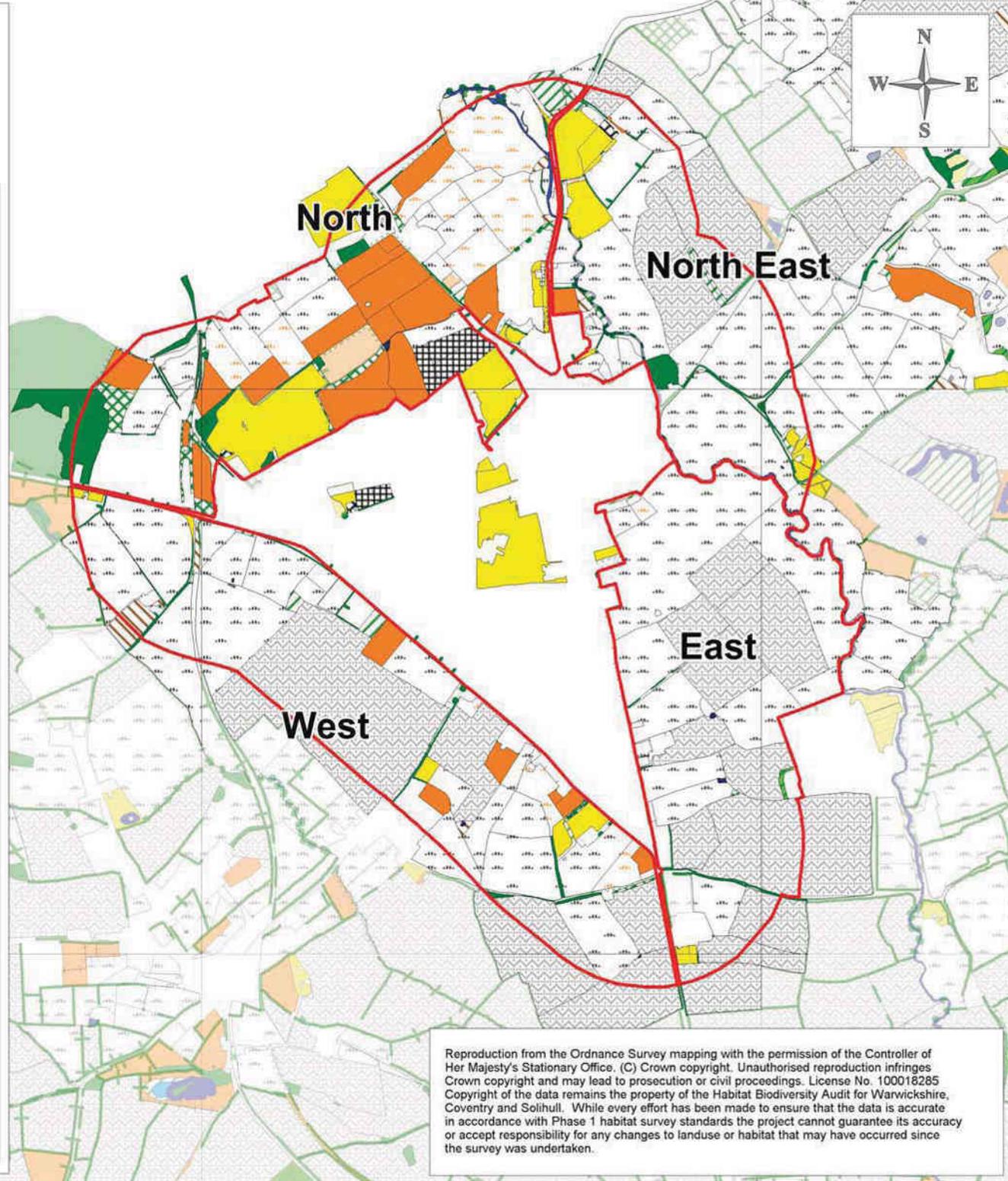
	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		

NB Data with a survey date before 2005 is displayed with muted tones



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Studley North-East

Area: 75.3 hectares

Phase I Habitat Survey

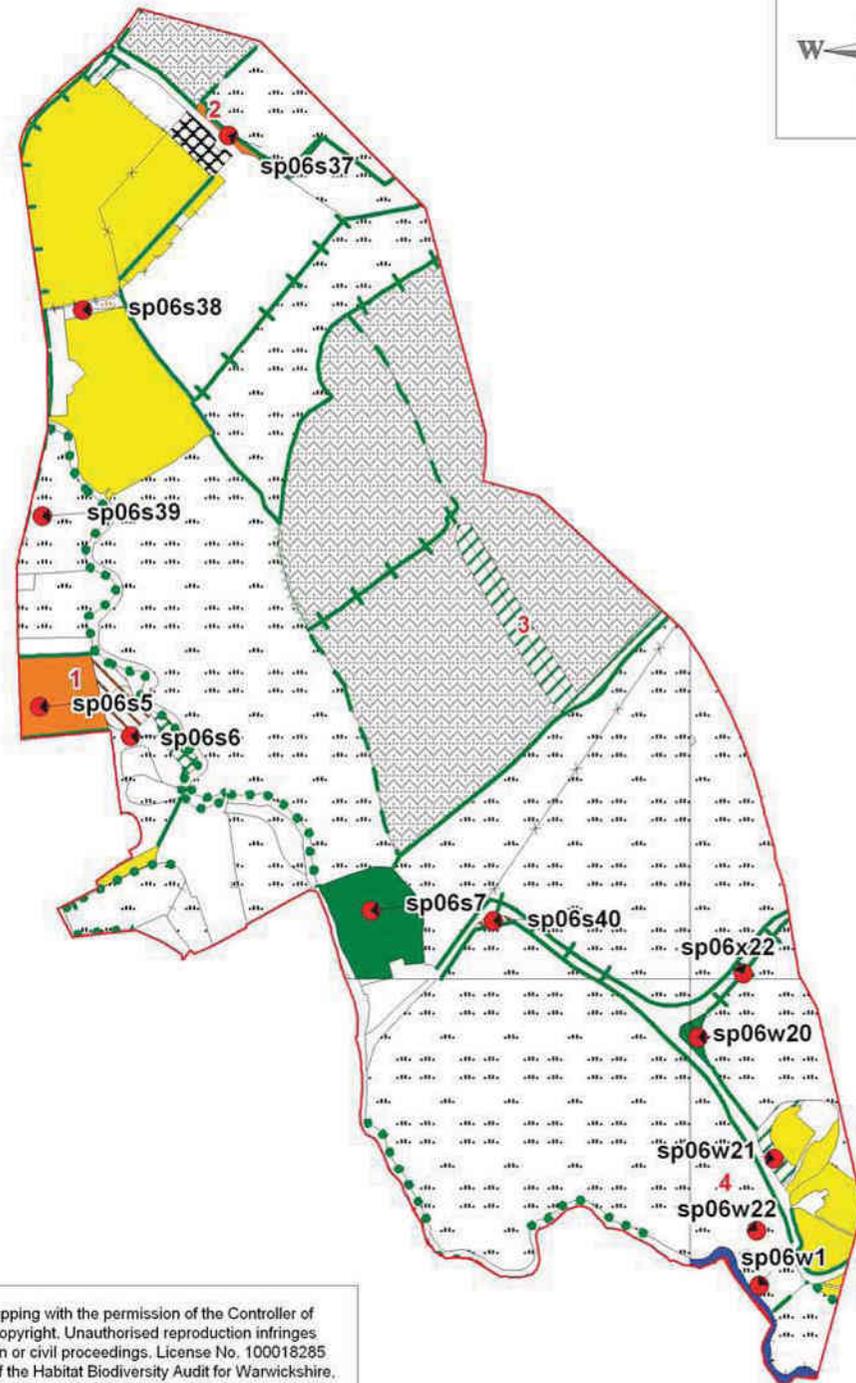
Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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Studley North East

Species

 Buffer zone for otter, water vole or white-clawed crayfish

 Buffer zone for great crested newt, adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

 Barn Owl

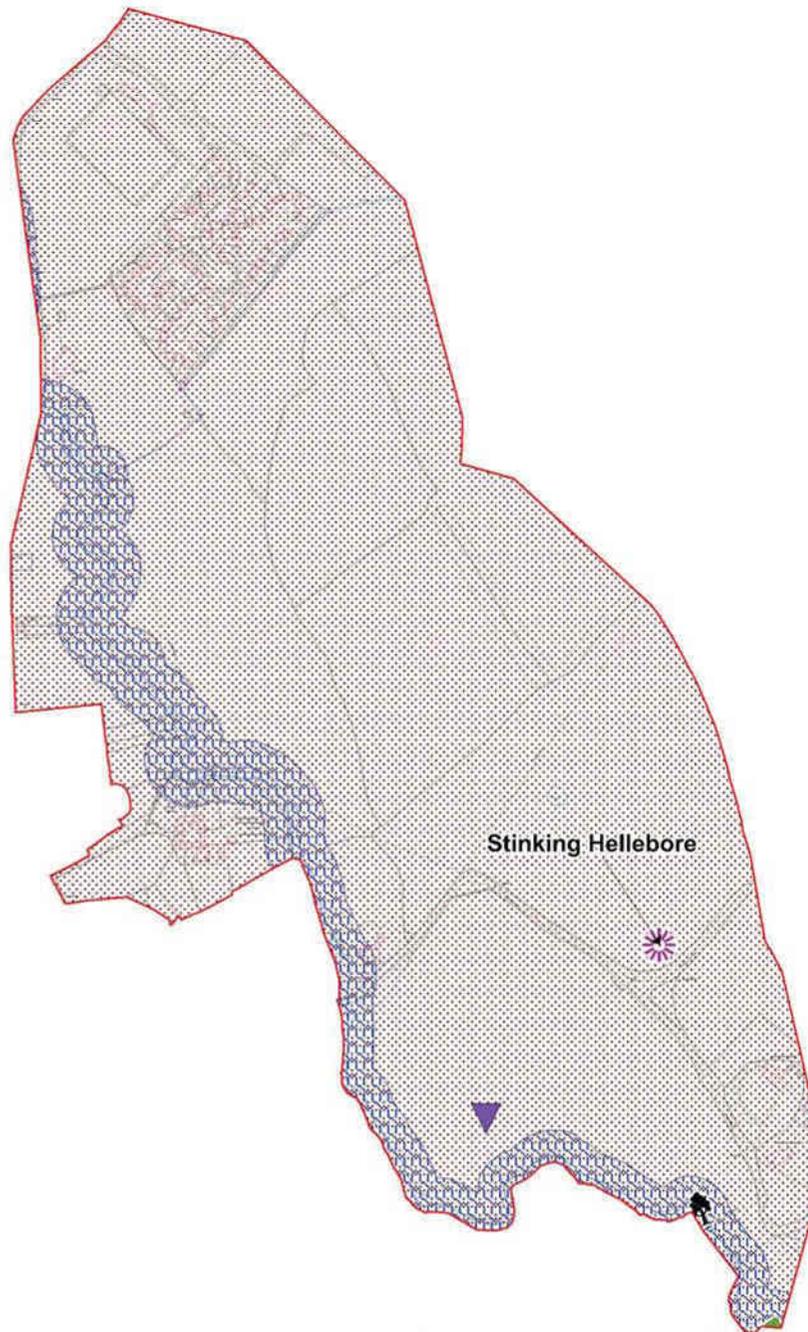
 BAP Butterfly

 Black poplar

 Veteran tree

 County rare plant

Warwickshire Biological Records Centre
Museum Field Services
The Butts
Warwick
CV34 4SS
Tel: (01926) 418060
Fax: (01926) 412975



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Studley East

Area: 106.3 hectares

Phase I Habitat Survey

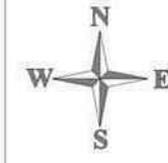
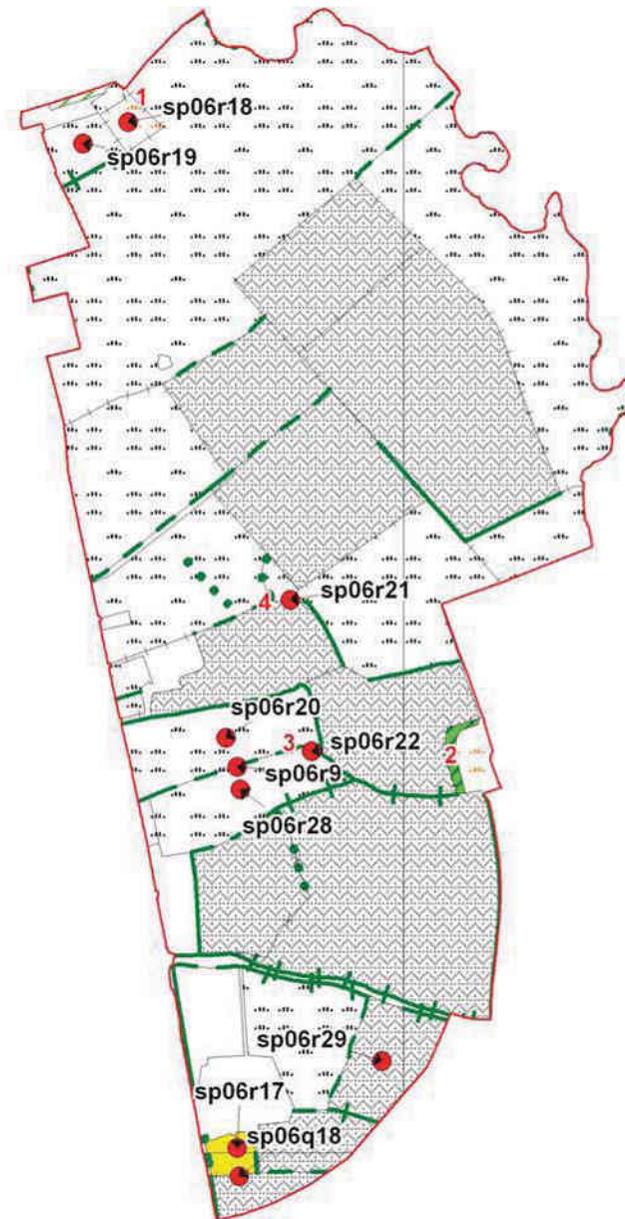
Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
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	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
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	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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Studley East

Species

 Buffer zone for otter, water vole or white-clawed crayfish

 Buffer zone for great crested newt, adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

 Barn Owl

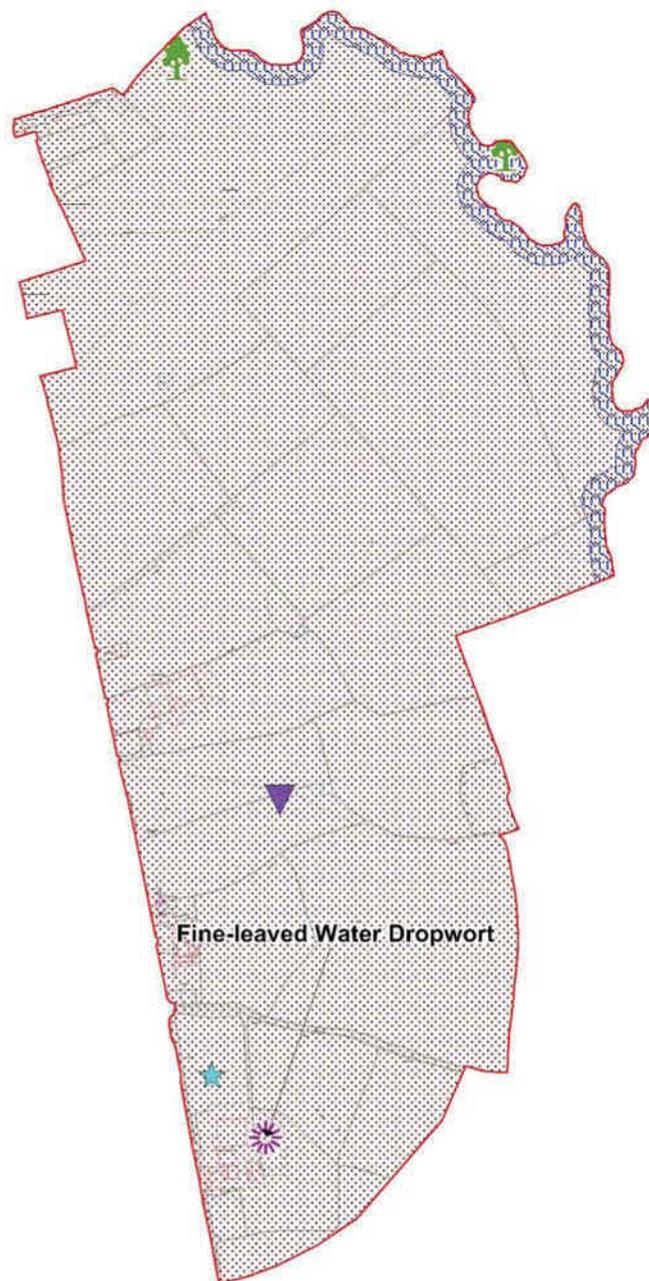
 BAP Butterfly

 Black poplar

 Veteran tree

 County rare plant

Warwickshire Biological Records Centre
Museum Field Services
The Butts
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Studley West

Area: 120.8 hectares



Phase I Habitat Survey

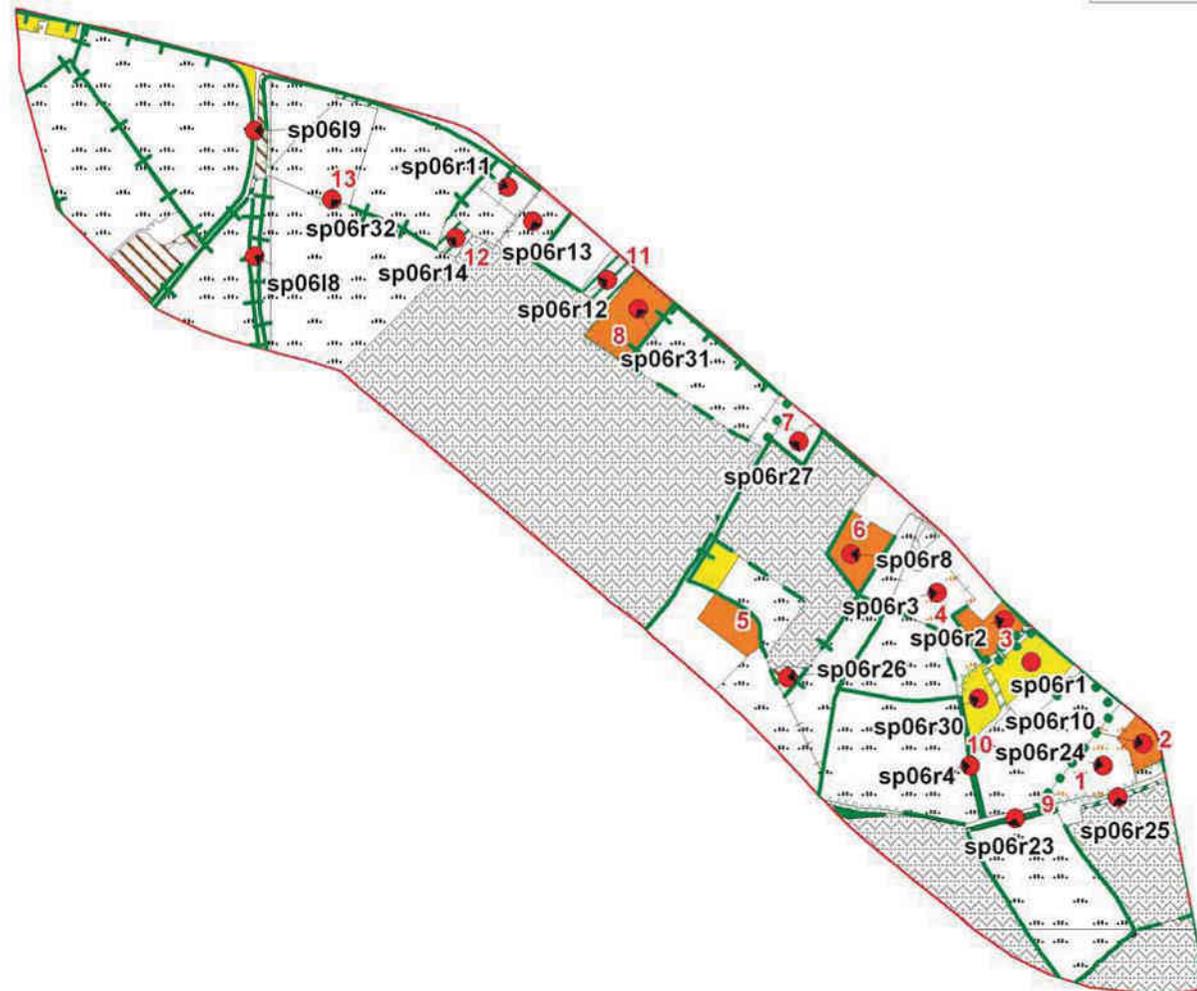
Habitat Types

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	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
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	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

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	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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Studley West

Species

-  Buffer zone for otter, water vole or white-clawed crayfish
-  Buffer zone for great crested newt, adder, grass snake or slow worm
-  Buffer zone for bat

-  Brown Hare
-  Reptile/amphibian
-  Barn Owl
-  BAP Butterfly
-  Black poplar
-  Veteran tree
-  County rare plant



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Museum Field Services
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Studley North

Area: 127.7 hectares

Phase I Habitat Survey

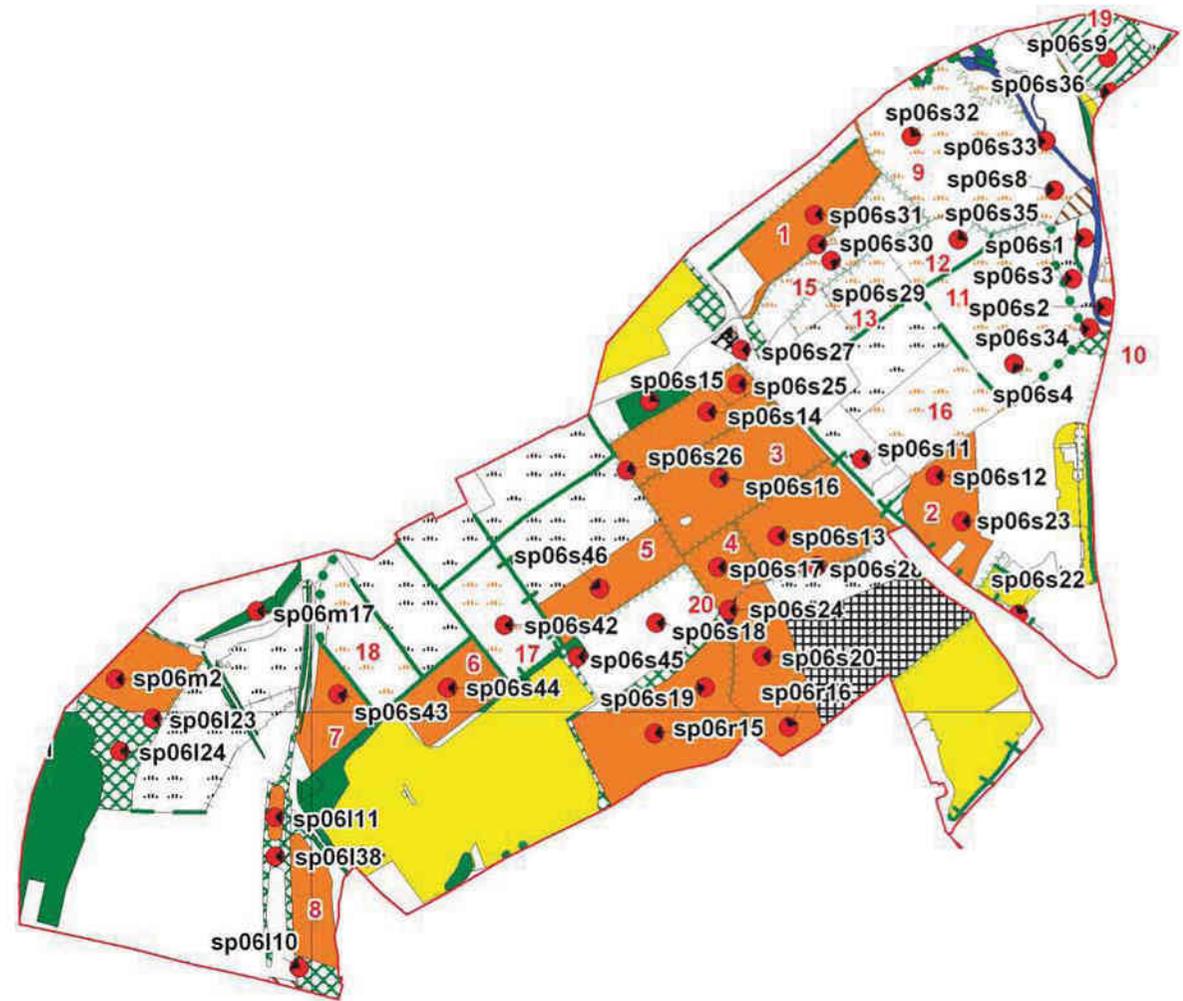
Habitat Types

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	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

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Studley North

Species

 Buffer zone for otter, water vole or white-clawed crayfish

 Buffer zone for great crested newt, adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

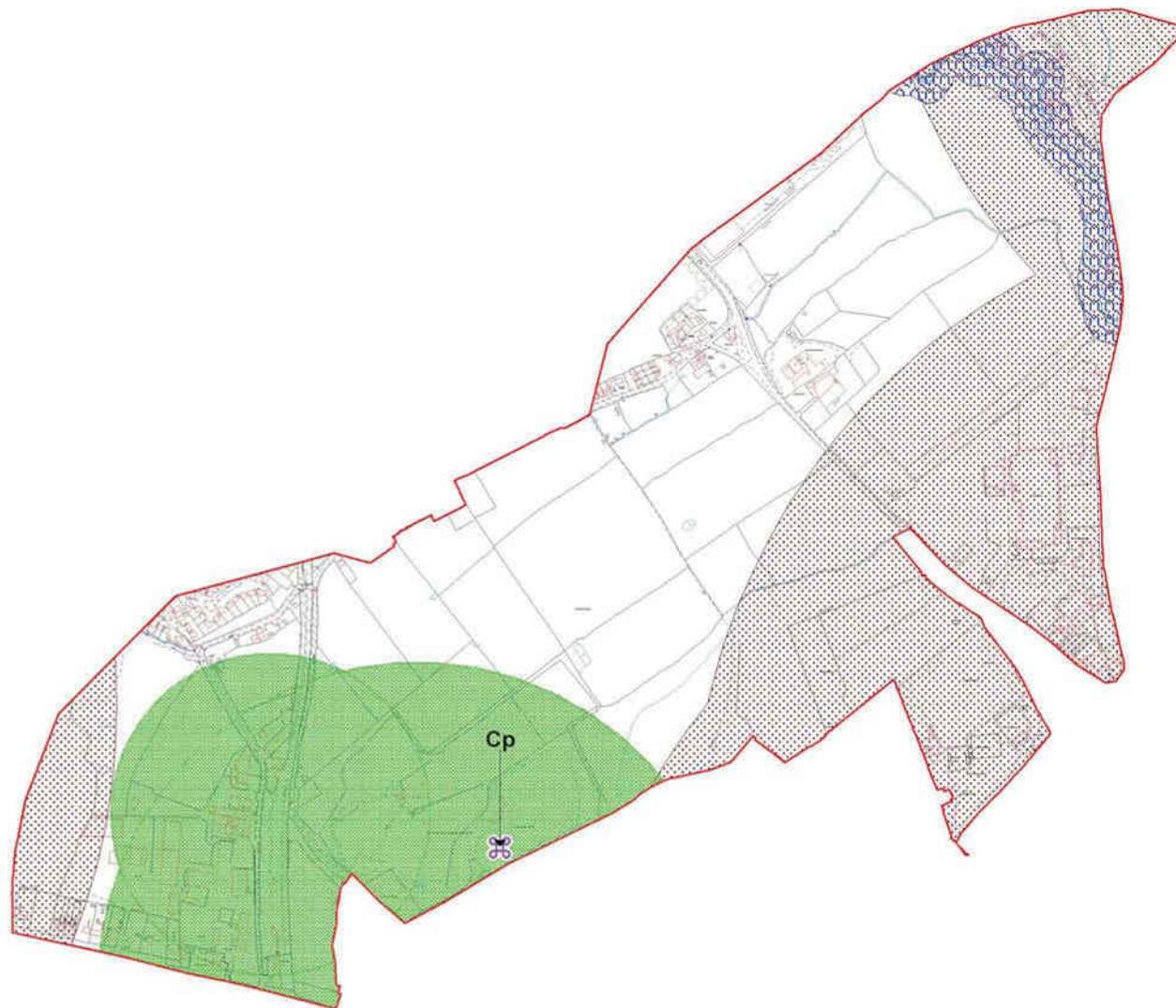
 Barn Owl

 BAP Butterfly

 Black poplar

 Veteran tree

 County rare plant



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Key for Reptile/Amphibian species

Tv	<i>Triturus vulgaris</i> (AKA <i>Lissotriton vulgaris</i>)	Smooth Newt
Rt	<i>Rana temporaria</i>	Common Frog
Bb	<i>Bufo bufo</i>	Common Toad
Lv	<i>Lacerta vivipara</i> (AKA <i>Zootoca vivipara</i>)	Common Lizard

Key for Red Listed and UK BAP Butterfly species

Please note that Small Blue and Dingy Skipper are also LBAP species

Cm	<i>Cupido minimus</i>	Small Blue
Cp	<i>Coenonympha pamphilus</i>	Small Heath
Et	<i>Erynnis tages</i>	Dingy Skipper
Lc	<i>Limenitis camilla</i>	White Admiral
Lm	<i>Lasiommata megera</i>	Wall
Pm	<i>Pyrgus malvae</i>	Grizzled Skipper
Swa	<i>Satyrion w-album</i>	White-letter Hairstreak

Appendix of Target Notes Relating to Phase 1 Habitat Survey Maps

(in alpha-numeric order)

Studley Target Notes

SP06I

1. Small field probably grazed by horses and containing much *Lolium perenne* and also abundant red clover and common cat's-ear and occasional yarrow.
2. Small field probably grazed by horses and containing much *Lolium perenne* and *Holcus lanatus*. Red clover and common cat's-ear are abundant, while yarrow, white clover and ox-eye daisy are occasional. Also occurring are red bartsia, black knapweed and dock. *Briza* sp. is reported to have been present, but not seen recently. There is a mature ash and two mature oaks on the western edge.
3. Large meadow containing a variety of grasses, including *Phleum pratense*, *Cynosurus cristatus*, *Agrostis stolonifera*, *Holcus lanatus*, *Alopecurus pratensis*, *Arrhenatherum elatius*, *Dactylis glomerata* and *Festuca rubra*. Many forbs are present including frequent black and greater knapweed, meadow buttercup and red clover. Occurring occasionally are ribwort and greater plantain, bird's-foot-trefoil, hogweed, agrimony, common cat's-ear, ox-eye daisy, hairy tare, meadow vetchling, yarrow and lady's bedstraw. There is some bramble encroachment and red bartsia and *Deschampsia caespitosa* are present rarely. There are some oak seedlings in the east and *Carex sylvatica* at the southern edge, which is now fenced. Several butterflies were present, including meadow browns, common blues, gatekeepers and large whites.
4. Uncut meadow containing abundant *Arrhenatherum elatius* and also *Holcus lanatus*, *Dactylis glomerata* and *Phleum pratense*. Forbs include occasional common vetch, meadow vetchling, spear thistle, dock, hairy tare and red clover. Two mature ash trees are present in the south.
5. Meadow that has been grazed or cut. The grasses were fairly short at the time of survey, but *Agrostis* sp., *Holcus lanatus*, *Lolium perenne* and local *Arrhenatherum elatius* were visible. Also present are red clover, common cat's-ear, bird's-foot-trefoil, selfheal and creeping thistle. There is a mature ash in the south.
6. Uncut meadow dominated by *Arrhenatherum elatius*, but also containing *Agrostis* sp. and *Holcus lanatus*. Common cat's-ear and ribwort plantain are abundant, spear thistle occurs occasionally and ragwort and dock are rare.
7. Large uncut meadow dominated by tall grasses such as *Arrhenatherum elatius*, *Dactylis glomerata* and *Lolium perenne*, with patches of *Holcus lanatus*. There are few forbs, but these include lesser trefoil, tufted vetch, white clover, ragwort, creeping thistle and hogweed.
8. Dismantled railway colonised by tall grasses and a little encroaching hawthorn, blackthorn and gorse scrub. Grasses present include *Arrhenatherum elatius*, *Lolium perenne*, *Cynosurus cristatus*, *Holcus lanatus*, *Dactylis glomerata*, *Agrostis stolonifera*, *Phleum pratense* and occasional *Deschampsia caespitosa*. There are many forbs, including frequent creeping thistle, ragwort, black medick, upright hedge parsley, hairy tare, bush vetch, red and white clover, red bartsia, ribwort plantain, ribbed melilot, ox-eye daisy, field bindweed, perforate St. John's-wort, meadow vetchling, common cat's-ear, hogweed and hedge woundwort. Occurring less often are hop trefoil, bird's-foot-trefoil,

nettle, wild carrot, spear thistle, *Juncus inflexus*, meadowsweet, selfheal, great willowherb, greater knapweed and red campion. Maple-leaved goosefoot and garlic mustard are localised. This stretch is bordered by tall

hedges of common hawthorn, elder, dog rose, blackthorn, goat willow and oak and ash standards. Several butterflies were present, including meadow brown, peacock, brimstone, small skipper and common blue.

Visited on 23/07/09 by ALA. No sign of unimproved grassland. Path/track used as short cut.

9. Road verge to the east of the road, which is up to three metres wide. It is dominated by *Arrhenatherum elatius*, but *Lolium perenne* is also present. Occurring frequently are wild carrot, ribwort plantain, black medick and creeping thistle. Horse-radish, ox-eye daisy, mouse-ear hawkweed, black knapweed, ragwort and lucerne are occasional. Hemlock and mugwort are locally frequent near the road junction. There is some invasion of bramble, goat willow, hawthorn and ash.

10. Small abandoned meadow with much bramble encroachment and abundant creeping thistle. Areas that are free of bramble contain tall *Arrhenatherum elatius*, *Dactylis glomerata* and *Holcus lanatus*, with creeping thistle, hogweed, meadow vetchling and bush vetch. A damson tree is present in the north-west corner.

11. Dismantled railway now covered in much hawthorn, rose and willow scrub. There is some rosebay willowherb, ragwort, *Dryopteris filix-mas*, common centaury, ribbed melilot, perforate St. John's-wort and much low-growing bramble. There is a steep bank up to the road, which is colonised by bramble and ivy and supports ash standards. Hairy tare is also present here.

Visited on 23/07/09 by ALA. Semi-improved grassland surrounded by dense scrub. Frequent creeping cinquefoil, willowherbs, abundant black medick, occasional ragwort, common centaury, oxeye daisy, red fescue, musk-mallow, hairy tare, common nettle, scarlet pimpernel, selfheal, perforate St John's Wort, creeping thistle, rare common restharrow, agrimony bird's-foot-trefoil, meadow vetchling and locally abundant lady's bedstraw. Tall ruderals are frequent in large patches. however, grassland is very diverse given its small size. Bramble scrub encroaching throughout. Very good habitat for invertebrates, several butterflies seen at time of survey. Also a very good habitat for reptiles. Several piles of chopped wood/cuttings exist, and one slow worm was recorded at the time of survey under a plastic sheet. There are several rabbit burrows on the bank by the road where the ground is clear from scrub. Ferns exist here. Despite its small size, this is a potential Local Wildlife Site given its diversity.

12. Large semi-improved meadow containing much *Arrhenatherum elatius*, occasional *Holcus lanatus*, *Bromus erectus* and *Lolium perenne*, with *Agrostis stolonifera*, *Festuca rubra*, *Elytrigia repens*, *Dactylis glomerata* and *Anthoxanthum odoratum* also present. Smooth and hairy tare, common vetch and creeping thistle are locally abundant, while ragwort, selfheal, common centaury, spear thistle, white clover, field forget-me-not, creeping buttercup, hop and lesser trefoil, thyme-leaved speedwell, bird's-foot-trefoil, field bindweed and oak saplings are occasional to frequent. Occurring less commonly are scarlet pimpernel, lady's bedstraw, field pansy, scentless mayweed, hogweed and meadow crane'sbill. The surrounding hedges contain common hawthorn, elm, blackthorn and dogwood, with willow, ash and oak. Honeysuckle occurs rarely. Several butterflies were seen, including small skipper, gatekeeper, peacock and meadow brown. The field is grazed in areas by rabbits and there was evidence of badger.

13. Large semi-improved meadow that has derelict fencing in some areas. Grasses include *Cynosurus cristatus*, *Holcus lanatus*, *Phleum pratense*, *Bromus erectus* and *Agrostis stolonifera*. There are

many forbs including abundant black knapweed and frequent agrimony, selfheal, ox-eye daisy, yellow rattle, ribwort and greater plantain and meadow buttercup. Red bartsia, yarrow, ragwort and pale St. John's-wort are occasional, while common centaury is rare. Hogweed and greater knapweed are locally abundant - both near the road.

14. Area of young hazel, hawthorn and holly coppice, with downy birch, oak standards and tall holly. There is also some young rowan. The ground flora consists of dense bramble and frequent bluebell and *Milium effusum*. Also occurring are *Dryopteris filix-mas*, *Pteridium aquilinum*, oak and hawthorn seedlings, *Dactylis glomerata*, *Holcus lanatus*, foxglove, yellow pimpernel and rosebay willowherb. Small-leaved lime standards are present at the edges. The dead branches have been left in piles.

15. Area of mature oak standards with occasional small-leaved lime and silver birch. The canopy here is fairly dense and the understorey consists of occasional, recently coppiced hazel. The ground is bare in places, but is generally dominated by bramble. Other species present include white bryony, honeysuckle, young hawthorn, *Pteridium aquilinum*, rose, *Dryopteris filix-mas*, ivy, *Milium effusum*, wood avens, herb robert, ground ivy, nipplewort, enchanter's nightshade, hedge woundwort, greater stitchwort and *Carex pendula*. Many small birds were present, especially blue tits. Grey squirrel also seen.

16. Area of mature oak and small-leaved lime standards, forming a fairly dense canopy. Silver birch occurs rarely. The understorey contains hazel, holly and hawthorn and many of the trees and shrubs support honeysuckle. The ground flora consists of dense bramble and occasional rose. Near the rides, species present include wild strawberry, *Carex pendula*, wood avens, herb robert and locally abundant *Pteridium aquilinum*. Towards the east, *Melica uniflora* becomes locally abundant and *Bromus sterilis* and violet sp. are also present.

17. Slope facing the road and supporting oak, with occasional small-leaved lime and silver birch. The fairly dense understorey contains hazel that has been coppiced in the past and also holly, hawthorn and rose. Further up the hill, field maple and buckthorn are present, while ash occurs towards the south-east. Several trees are ivy-clad. The ground flora is dominated by bramble with frequent bluebell and wood avens and locally frequent *Pteridium aquilinum*. Also occurring are *Milium effusum*, *Carex sylvatica*, *Dryopteris filix-mas*, enchanter's nightshade and many oak seedlings.

18. Extensive area at the highest point of the woodland containing mature oak, which appears to have been planted originally and occasional small-leaved lime, which have been coppiced in the past. There is a little hazel understorey, while the ground flora is dominated by bramble. Other species present include *Carex sylvatica*, *Milium effusum*, *Melica uniflora*, young holly and alder, honeysuckle, downy birch and oak seedlings and *Pteridium aquilinum*.

19. Area of mature European larch and oak with occasional downy birch and a sparse understorey of holly, hazel and elder. The ground flora is dominated by *Pteridium aquilinum*, with frequent bramble and young downy birch.

20. Mature oak coppice with downy birch. There is no understorey and the ground flora is dominated by bramble. Also occurring are young downy birch and *Pteridium aquilinum*.

21. Drying pond containing frequent duckweed and much dead wood. Also present are wood sage, willow sp., black bryony, water-pepper, nettle and enchanter's nightshade. The banks support *Pteridium aquilinum*, burdock, bramble, silver birch, oak and a single European larch.

22. Area apparently used by bikers. There is much erosion and seems to have been burnt in the past. There is a fairly dense canopy of oak, small-leaved lime and silver birch, which was originally planted. The understorey is of very sparse rowan, hazel and elder.

The ground is largely bare, but *Pteridium aquilinum* and bramble are locally abundant. In these areas wood sage is frequent while bluebell, honeysuckle and rosebay willowherb are present occasionally. There is some fallen dead wood, often of silver birch.

23. Large semi-improved field with much bramble and rose scrub and some blackthorn. Grasses present include *Dactylis glomerata*, *Agrostis tenuis*, *Holcus lanatus*, *Arrhenatherum elatius* and *Phleum pratense*. Creeping thistle and dock occur frequently, while other species include common toadflax, agrimony, vetch sp., selfheal, cuckoo pint, black knapweed, bird's-foot-trefoil, common cat's-ear, lady's bedstraw, small scabious, red bartsia, common centaury, wild angelica and ox-eye daisy. Perforate St John's-wort becomes more frequent to the west. Field may be developed in the future.

24. Impenetrable bramble and hawthorn scrub, which has been fenced off. Also visible are nettle, immature oak and willow.

25. Large area of oak, forming a dense canopy, with very little holly, hazel and elder understorey. The ground flora is dominated locally by either *Pteridium aquilinum* or bramble, with the other being frequently present. Also occurring are foxglove, enchanter's nightshade, young silver birch, *Dactylis glomerata*, *Carex pendula*, bluebell, *Deschampsia caespitosa*, *Juncus effusus*, slender St. John's-wort, wood sage and rosebay willowherb.

26. Mature oak woodland with ancient small-leaved lime coppice. The understorey mingles with the canopy and contains hawthorn, hazel, field maple, crab apple and elder. The ground is mostly bare, but some bramble, rose, honeysuckle, *Melica uniflora*, bluebell, greater stitchwort, herb robert, wood avens, *Dryopteris filix-mas* and *Deschampsia caespitosa* are present. Many small birds were present especially near the rides, including wren, robin and various tits. Also seen were speckled wood and several white butterflies.

27. Immature sycamore plantation, with some ash and occasional small-leaved lime coppice. The understorey is sparse and consists of understorey. The ground flora is dominated by nettle with sycamore regeneration, wood avens, garlic mustard, red campion, hogweed, broad-leaved willowherb, *Carex remota* and *Deschampsia caespitosa* also present. Some rubbish has been dumped near the houses.

28. Area of mature oak, ash and small-leaved lime, some of which have been coppiced. The understorey is locally dense and contains holly, hazel and some dogwood. The ground flora is dominated by bramble, but also contains ivy, barren strawberry, red campion and enchanter's nightshade. Small-leaved lime becomes more common to the north.

29. Area of hazel and downy birch coppice, with silver birch and oak standards and occasional field rose and hawthorn scrub. *Carex pendula* and *Deschampsia caespitosa* occur frequently, while many other species are present and include wild angelica, wood sorrel, yellow pimpernel, ragged robin, perforate and slender St. John's-wort, bugle and enchanter's nightshade. A slow-worm was seen.

30. Meadow surveyed by English Nature. Grazed field with elements of and MG5 grassland still evident. There is much disturbance near the gateway with sheds and farm equipment. Ruderal species are apparent here.

31. Meadow surveyed by English Nature. SSSI quality hay meadow with a variety of grasses including *Anthoxanthum odoratum*, *Briza media*, *Cynosurus cristatus*, *Festuca pratensis*, *Festuca rubra* and *Phleum bertolonii*. Many forbs are present including agrimony, *Carex flacca*, black knapweed, smooth hawk's-beard, lady's bedstraw, autumn and rough hawkbit, ox-eye daisy, yellow rattle, lesser stitchwort and goat's-beard.

32. Meadow surveyed by English Nature. Fairly wet MG5 grassland of SSSI quality. A variety of grasses occurs including *Agrostis canina*, *Anthoxanthum odoratum*, *Cynosurus cristatus*, *Festuca pratensis*, *Festuca rubra*, *Phleum pratense* and *Poa trivialis*. Many

forbs are present including *Carex hirta*, black knapweed, lady's bedstraw, autumn hawkbit, common and greater bird's-foot-trefoil, creeping jenny, yellow rattle, prickly sow-thistle and lesser stitchwort.

33. Field surveyed by English Nature. Elements of MG5 grassland are present. Grasses include *Agrostis canina*, *Anthoxanthum odoratum*, *Cynosurus cristatus*, *Phleum bertolonii*, *Phleum pratense*, *Poa trivialis* and *Trisetum flavescens*. Forbs include black knapweed, common cat's-ear, meadow vetchling, autumn hawkbit, bird's-foot-trefoil, selfheal and lesser stitchwort.

34. Field surveyed by English Nature. Meadow ploughed during the war, but ridge and furrow still apparent. Many species now re-colonising.

35. New Coppice, surveyed by English Nature. A glade in the east is grazed. The canopy contains a variety of species including much oak and also ash, small-leaved lime, sycamore, alder, downy birch, wild cherry, horse chestnut and rowan. Understorey species include crab apple, guelder rose and common and Midlands hawthorn, among others. Forbs in the ground flora and glade include wavy bittercress, bluebell, heath bedstraw, wood sorrel, tormentil, primrose, wild strawberry, common and marsh valerian, water mint, lesser spearwort and common figwort. Grasses such as *Deschampsia caespitosa*, *Deschampsia flexuosa*, *Anthoxanthum odoratum* and *Agrostis stolonifera* are present, as are *Carex remota*, *Carex sylvatica* and *Juncus effusus*. Also occurring are *Dryopteris filix-mas*, *Dryopteris dilatata*, *Athyrium filix-femina* and *Pteridium aquilinum*.

36. Large meadow taken out of agricultural production, but still containing much red and white clover. *Holcus lanatus* and *Agrostis stolonifera* are abundant, while *Elytrigia repens* is locally abundant. *Festuca rubra* is also localised. Forbs present include frequent ragwort and common cat's-ear, with hogweed, bush vetch, meadow vetchling, spear and creeping thistle, common sorrel, field forget-me-not, bird's-foot-trefoil, hairy tare, greater plantain and meadow buttercup. Several oak seedlings occur. At the field edges are arable weed species, such as field pansy and scentless mayweed. A pair of bullfinches and two male common blue butterflies were seen.

37. Large meadow, partly mown and dominated by tall grasses, such as *Arrhenatherum elatius* and *Dactylis glomerata*. Also occurring are *Holcus lanatus* and *Agrostis stolonifera*. Forbs species include hairy tare, creeping thistle, dock, common vetch and ragwort. Several hawthorn and oak seedlings are present. Visited on 23/07/09 by ALA. Dense scrub Which prevented access to survey southern part of field.

SP06m

1.) Large semi-improved meadow that has derelict fencing in some areas. Grasses include *Cynosurus cristatus*; *Holcus lanatus*; *Phleum pratense*; *Bromus erectus* and *Agrostis stolonifera*. There are many forbs including abundant black knapweed and frequent agrimony; selfheal; ox-eye daisy; yellow rattle; ribwort and greater plantain and meadow buttercup. Red bartsia; yarrow; ragwort and pale St. John's-wort are occasional; while common centaury is rare. Hogweed and greater knapweed are locally abundant - both near the road.

2.) Large semi-improved field with much bramble and rose scrub and some blackthorn; lightly grazed by cattle and goats. Grasses include *Dactylis glomerata*; *Agrostis tenuis*; *Holcus lanatus*; *Arrhenatherum elatius* and *Phleum pratense*. Creeping thistle and dock occur frequently; while other species include common toadflax; agrimony; small scabious; selfheal; black knapweed; lady's bedstraw; red bartsia; wild angelica; common centaury and ox-eye daisy.

Perforate St. John's-wort and bramble become more common to the west; where young hazel and patches of lady's mantle also occur. *Ophioglossum vulgatum* is reported. Several butterflies were seen; including small tortoiseshell; speckled wood; common blue and small whites. There was evidence of rabbits and a green woodpecker was heard.

Visited on 04/04/10 by ALA. Semi-improved neutral grassland with occasional agrimony, meadow buttercup, red fescue, white clover, common knapweed, red clover, creeping cinquefoil, common mouse-ear, black medick, yarrow, selfheal, creeping buttercup, bird's-foot trefoil, greater plantain, burdock sp., broadleaved dock, Yorkshire fog, rare common restharrow. Field includes one small fenced area which is grazed by donkeys. Half the field is temporarily fenced and uncut/ungrazed with more abundant herbs, including frequent agrimony and selfheal. No common centaury and lady's mantle seen as previously. Scrub is locally frequent and encroaching more from the side of Rough Hill Wood. The owner of part of the field reported that the whole field would soon be seeded and improved.

3.) Fairly large area of oak; the canopy of which is fairly dense. The understorey consists of very sparse holly; hazel and elder. European larch and downy birch occur locally. The ground flora is dominated by either *Pteridium aquilinum* or bramble; the other being frequently present. Also present are wood sorrel; foxglove; young silver birch; slender St. John's-wort; enchanter's nightshade; bluebell; wood sage; *Dactylis glomerata*; *Carex pendula*; *Juncus effusus* and *Deschampsia caespitosa*.

4.) Woodland of oak; silver and downy birch; with rowan and a denser understorey than in other nearby areas. This is comprised of hazel; holly and honeysuckle. Ground flora here includes common figwort; herb robert; bramble; wood sorrel; enchanter's nightshade; *Melica uniflora*; *Pteridium aquilinum* and *Dryopteris filix-mas*.

5.) Old oak coppice; now forming a tall canopy. The sparse understorey consists of hazel and holly. The ground flora is dominated by bramble and also contains honeysuckle; bluebell and *Carex sylvatica*. This area is crossed by many paths.

6.) Stand of dense silver and downy birch; some of which has been coppiced; with occasional oak; hazel and holly. The ground flora contains frequent bramble; nettle; *Pteridium aquilinum* and bluebell with wood sage and red campion. Near the rides; especially in the east; species include *Carex pendula*; *Juncus inflexus*; thyme-leaved speedwell; enchanter's nightshade; common figwort; downy birch and oak seedlings; yellow pimpernel and wood sorrel.

7.) Semi-natural woodland of mature oak and silver birch; with a dense understorey of young silver and downy birch; holly; hazel and rowan. Some of the hazel has been coppiced. There are a few introduced species such as western hemlock; laurel and some local sycamore. Ground flora contains some *Pteridium aquilinum*; bramble; common figwort; holly and oak seedlings; bluebell; *Carex sylvatica*; *Festuca rubra* and *Deschampsia caespitosa*. There are many areas of bryophytes including *Mnium hornum* and *Polytrichum commune*.

8.) Large area of oak forming a dense canopy with a sparse understorey of holly; hazel and elder. The ground flora is dominated by either bramble or *Pteridium aquilinum*; with the other being frequently present. Also occurring are foxglove; young silver birch; bluebell; slender St. John's-wort; enchanter's nightshade; wood sage; *Dactylis glomerata*; *Carex pendula* and *Deschampsia caespitosa*.

- 9.) Area of mature oak; originally planted. The understorey is very sparse and consists of holly and hazel. There is abundant bramble and bilberry and occasional young oak; rowan; *Festuca rubra*; honeysuckle and wood sage.
- 10.) Small area of remnant heath with immature oak standards and coppice forming a fairly open canopy. Species present here include ling; bilberry; *Festuca rubra*; *Pteridium aquilinum*; oak and silver birch saplings; wood sage; bramble and honeysuckle.
- 11.) New Coppice; surveyed by English Nature. A glade in the east is grazed. The canopy contains a variety of species including much oak and also ash; small-leaved lime; sycamore; alder; downy birch; wild cherry; horse chestnut and rowan. Understorey species include crab apple; guelder rose and common and Midlands hawthorn; among others. Forbs in the ground flora and glade include wavy bittercress; bluebell; heath bedstraw; wood sorrel; tormentil; primrose; wild strawberry; common and marsh valerian; water mint; lesser spearwort and common figwort. Grasses such as *Deschampsia caespitosa*; *Deschampsia flexuosa*; *Anthoxanthum odoratum* and *Agrostis stolonifera* are present; as are *Carex remota*; *Carex sylvatica* and *Juncus effusus*. Also occurring are *Dryopteris filix-mas*; *Dryopteris dilatata*; *Athyrium filix-femina* and *Pteridium aquilinum*.
- 12.) Field surveyed by English Nature. Species-rich meadow with wide uneven ridge and furrow in places and a deep track leading to the wood. A very old tip borders the track. A variety of grasses are present; including *Anthoxanthum odoratum*; *Briza media*; *Cynosurus cristatus*; *Sieglingia decumbens*; *Festuca rubra* and *Glyceria fluitans*. Many forbs occur; including agrimony; *Carex hirta*; black knapweed; smooth hawk's-beard; *Equisetum arvense*; *Juncus acutiflorus*; *Juncus inflexus* and *Juncus effusus*; *Luzula campestris*; common and greater bird's-foot-trefoil; water mint; devil's-bit scabious; brooklime and imperforate St. John's-wort.
- 13.) Oak woodland with some ash and rowan. The understorey is dense and consists of much rhododendron; with holly; crab apple; hazel and rare guelder rose. There is no ground flora; apart from a little bramble; but there is a deep leaf litter. Some dumping of refuse has taken place.
- 14.) Fairly even-aged mature oak woodland with occasional beech. The understorey is dense; with much rhododendron in the east. Also in the understorey are holly; rose; rowan and elder. The ground flora is sparse; but contains *Pteridium aquilinum*; bramble and nettle. In damper areas; yellow pimpernel; enchanter's nightshade; *Juncus effusus* and *Deschampsia caespitosa* occur.
- 15.) Large abandoned house and garden with brick outbuildings which have potential for nesting sites. Nettle dominated the grounds; with creeping thistle and dock. There are some areas of tall grass; which consist of much *Dactylis glomerata*. Also present are burdock and black knapweed. There is scattered elder and rose scrub.
- 16.) Even-aged mature woodland with yew; to which access could not be gained. There appears to be a dense understorey of blackthorn; hazel; rose and field maple.
- Visited on 24/07/09 by ALA. Broad-leaved semi-natural woodland with an oak canopy, with frequent ash and an understorey of occasional hawthorn, holly, field maple, rowan and hazel. Also a few silver birch standards. Ground is almost entirely covered with ivy and occasional hogweed, wood avens and docks, with rare fern spp. and black bryony.

SP06r

1.) Poor semi-improved grassland with frequent *Poa pratensis*, *Agrostis tenuis*, *Alopecurus pratensis* and occasional *Dactylis glomerata* and *Arrhenatherum elatius*. Forbs present include bulbous buttercup, chickweed, dove's-foot crane's-bill and ribwort plantain with occasional black knapweed.

2.) Poor semi-improved grassland with frequent *Agrostis tenuis*, *Alopecurus pratensis*, *Arrhenatherum elatius* and *Poa* spp. with occasional *Dactylis glomerata*. Forbs include bulbous buttercup, dove's-foot crane's-bill, ribwort plantain and occasional black napweed. The path to the south-east is lined with elder and hawthorn scrub and young elm trees. The understorey and ground flora consists of bramble, nettle, ivy, *Poa trivialis*, *Dactylis glomerata* and occasional foxglove.

Visited on 22/07/09 by ALA. No access. Viewed from road. Abundant false oat-grass, rare common knapweed.

Visited on 22/07/09 by ALA. Improved grassland grazed by sheep.

Abundant creeping thistle throughout the field. Visited on 22/07/09 by ALA. Deep standing water with one oak partly shading it. Smooth rush patches and locally abundant celery-leaved buttercup on banks. Also rare brooklime. One long anthill on south bank.

Visited on 22/07/09 by ALA. Pond with clear water, heavily shaded by mature oak, young willows, hawthorn & blackthorn scrub, and young ash, while water lily is found frequent in the centre of the pond. Cock's-foot, *Poa* sp., Timothy, crested dog's-tail, are found

occasionally on banks with one patch of smooth rush. Visited on 22/07/09 by ALA. Broad-leaved semi-natural woodland with oak canopy and a scrub understorey of hawthorn, elder, blackthorn and a ground flora of abundant common nettle, occasional lords-and-ladies and rare bluebells.

Visited on 22/07/09 by ALA. Tussocky poor sei-improved grassland dominated by coarse grasses. Abundant false oat-grass, cock's-foot, occasional Timothy, teasel, musk mallow, ragwort, and frequent throughout creeping thistle, rare common knapweed, harebell and bird's-foot-trefoil are found. Butterflies use the site, inc. gatekeeper.

Visited on 22/07/09 by ALA. Dense scrub which is gradually turning to woodland. A few tall oak trees and silver birches. Dominant species of scrub hawthorn and blackthorn, frequent bramble and rare holly. Ground flora with frequent cleavers, bittersweet, and occasional red campion, creeping buttercup, broad-leaved dock and willowherb. Two wet areas within strip probably forming several ponds. These contain large patches of smooth rush. One is covered with duckweed and at the other one small patch of lesser spearwort is found. A tall field maple coppice exists within the strip with honeysuckle on.

Visited on 23/07/09 by ALA. Pond surrounded by dense scrub of elder, hawthorn, blackthorn and a standard ash. Tall ruderal surrounds this: creeping thistle (D), thistles (F), Creeping buttercup (F), white clover (F), bird's-foot-trefoil (R). Visited on

23/07/09 by ALA. Uncut poor semi-improved grassland by pub with abundant false oat-grass, frequent perennial rye-grass, white clover, *Poa* sp., and frequent creeping thistle.

Visited on 22/07/09 by ALA. Improved grassland grazed by sheep. Only abundant thistles are found. Visited on 22/07/09 by ALA. Buzzard seen.

3.) Semi-improved pasture with abundant *Agrostis stolonifera*, *Poa* spp. and frequent *Cynosurus cristatus* and *Alopecurus pratensis*. There are patches of *Dactylis glomerata*, *Arrhenatherum elatius* and *Festuca rubra*. Bulbous and meadow buttercup are present throughout with patchy sorrel, mouse-ear hawkweed, creeping thistle and common mouse-ear and scattered creeping thistle and field speedwell.

Visited on 22/07/09 by ALA. Poor semi-improved grassland grazed by cows. Occasional white clover, cock's-foot, crested dog's-tail, and rare bird's-foot-trefoil, common sorrel, and lesser stitchwort. Coarse grass species dominated.

Visited on 22/07/09 by ALA. Field is used for caravans.

Visited on 23/07/09 by ALA. Species rich, semi-improved grassland. Probably should be considered as a potential LWS. Frequent ribwort plantain, common knapweed, false oat-grass, white clover, red clover, cock's-foot, creeping thistle, occasional common sorrel, meadow vetchling, creeping buttercup, selfheal, creeping cinquefoil, lesser stitchwort, tufted vetch, hogweed, red fescue, yarrow, crested dog's-tail. rare yellow rattle and adder's tongue fern. are found. Bramble scrub surrounds the field.

Visited on 23/07/09 by ALA. Dense scrub surrounding two ponds. Shaded by blackthorn and by oaks and elder.

4.) Greenway footpath lined by oak and hawthorn hedges with patches of dense hawthorn and elder scrub in places and a ground flora of ground ivy, nipplewort, *Dactylis glomerata*, bramble, herb Robert and occasional mallow, meadow crane's-bill and bluebell.

Visited on 22/07/09 by ALA. Broad-leaved semi-natural woodland with a canopy of oak and an understorey of blackthorn, elder, hawthorn, elm and locally abundant bramble scrub. Ground flora with occasional bluebell, common figwort, cock's-foot, ivy and rare red campion. Locally abundant nettles are found.

5.) Poor semi-improved horse grazed pasture with frequent *Poa pratensis*, *Dactylis glomerata* and *Agrostis tenuis*, and occasional *Arrhenatherum elatius*. Forbs include bulbous buttercup throughout, sorrel and occasional creeping buttercup, meadowsweet and meadow buttercup.

6.) No access, but through the hedge it appears to be semi-improved with frequent *Agrostis* sp. and *Dactylis glomerata*.

7.) Poor semi-improved grassland apparently unmanaged and dominated by *Arrhenatherum elatius* with occasional *Dactylis glomerata* and scattered creeping thistle and broad-leaved dock.

8.) No access but appears to be dominated by coarse grasses such as *Arrhenatherum elatius* and *Dactylis glomerata* with scattered tall ruderal species such as nettle, creeping thistle and broad-leaved dock.

9.) Poor semi-improved grassland, previously improved and now containing patches of *Arrhenatherum elatius* and *Dactylis glomerata*. More frequent grasses include *Poa pratensis*, *Poa annua* and *Cynosurus cristatus*.

10.) Poor horse grazed semi-improved pasture with frequent *Agrostis tenuis*, *Poa pratensis*, Bulbous buttercup and scattered cow parsley.

Visited on 22/07/09 by ALA. Semi-improved neutral grassland with frequent ribwort plantain, yarrow, red fescue, false oat-grass, *Poa* sp., occasional common bird's-foot-trefoil and rare common knapweed, lesser stitchwort and smooth rush.

11.) A horse grazed field of poor semi-improved grassland which is alternately grazed with the field to the south of it. The southern field appears improved. The semi-improved field is dominated by *Arrhenatherum elatius* and *Dactylis glomerata* with frequent dock and cow parsley, common sorrel, creeping thistle and creeping cinquefoil.

Visited on 23/07/09 by ALA. Horse grazed field of improved grassland.

12.) An ungrazed semi-improved field with frequent *Arrhenatherum elatius*, *Dactylis glomerata* and *Agrostis tenuis*. It also contains scattered dock and creeping thistle with frequent cow parsley and *Galium* sp. There are several young planted oaks in the field.

Visited on 23/07/09 by ALA. Broad-leaved plantation dominated by ash with a hawthorn understorey. Ground flora is dominated by ivy with frequent creeping buttercup, cock's-foot, and locally frequent nettles.

13.) An area of semi improved grassland which appears to be unmanaged. The areas of grass were dominated by *Dactylis glomerata* with frequent *Holcus lanatus* and *Agrostis tenuis*. Large areas are covered in brambles and nettles with frequent cleavers. The field is surrounded on all sides by trees on all sides, these include oak, field maple and elm and there is a hedge dominated by hawthorn bordering the road. Some ash trees have been planted at the north end of the field, they are still quite young but little else seems to have been done recently. There is also patches of hawthorn scrub encroachment into the field.

14.) A mature oak and hazel plantation with a sparse understorey of hawthorn, holly and dog rose. The canopy is quite open so the ground cover is continuous. It includes frequent nettles, garlic mustard, *Galium* sp. brambles, dock, common sorrel, common chickweed and *Poa trivialis*.

15.) Large area of semi-improved grassland on a north facing slope. At the bottom of the slope there is a drainage ditch largely overgrown by *Dactylis glomerata* and *Arrhenatherum elatius* and lined by scattered dog rose and bramble. At the eastern edge the ditch contains *Carex* sp. *Juncus effusus* and *Glyceria* sp. where there seems to be permanent standing water, with *Deschampsia caespitosa* and *Holcus lanatus* surrounding. Further up the slope *Poa trivialis*, *Arrhenatherum elatius*, *Phleum pratense*, *Agrostis stolonifera*, creeping cinquefoil and black knapweed are common with occasional *Festuca rubra*, *Cynosurus cristatus* and red bartsia. There is scattered patches of bramble and dog rose scrub throughout, dense in places.

16.) Area of apparently unmanaged grassland with abundant *Agrostis stolonifera* and frequent *Poa* spp., *Dactylis glomerata* and *Arrhenatherum elatius* and occasional *Festuca rubra* and *Cynosurus cristatus*. Forbs include black knapweed, creeping cinquefoil and occasional red bartsia. Visited on 31/07/10 by ALA. Tussocky semi-improved neutral grassland dominated by false oat-grass, with frequent ragwort, timothy, thistles, field bindweed, occasional meadow vetchling, creeping cinquefoil, red fescue and lesser stitchwort.

17.) Old orchard with few trees left, some dead standing, with unmanaged semi-improved grassland beneath. Coarse grasses dominate, especially *Arrhenatherum elatius* and *Dactylis glomerata*, and there are extensive areas of nettle. Visited on 22/07/09 by ALA. New amenity grassland. Short cut perennial rye-grass. Private garden. Visited on 22/07/09 by ALA. Poor semi-improved grassland cut/grazed short. Occasional white clover, red fescue, creeping buttercup, ribwort plantain, red clover, cock's-foot, bird's-foot-trefoil/One very old oak at south edge of field. Visited on 22/07/09 by ALA. Grassland now improved. only abundant false oat-grass and frequent broad-leaved dock. Large patch of scrub in the centre of field.

SP06s

1.) Narrow field of poor semi-improved grassland surrounded by alder, ash, field maple and oak and containing frequent *Poa trivialis*, *Dactylis glomerata* and *Arrhenatherum elatius* with occasional patches of nettle and creeping buttercup. May be worth a look earlier in the season.

2.) Narrow field of poor semi-improved grassland surrounded by alder, ash, field maple and oak and containing frequent *Poa trivialis*, *Dactylis glomerata* and *Arrhenatherum*

elatius with occasional patches of nettle and creeping buttercup. May be worth a look earlier in the season.

Visited on 17/07/09 by ALA. Poor semi-improved grassland.20.) Area of apparently unmanaged grassland with abundant *Agrostis stolonifera* and frequent *Poa* spp., *Dactylis glomerata* and *Arrhenatherum elatius* and occasional *Festuca rubra* and *Cynosurus cristatus*. Forbs include black knapweed, creeping cinquefoil and occasional red bartsia.

3.) Narrow field of poor semi-improved grassland surrounded by alder, ash, field maple and oak and containing frequent *Poa trivialis*, *Dactylis glomerata* and *Arrhenatherum elatius* with occasional patches of nettle and creeping buttercup. May be worth a look earlier in the season.

Visited on 17/07/09 by ALA. Probably improved grassland. Only siverweed seen and a few patches of smooth and hard rush. Visited on 17/07/09 by ALA. Some standard ashes.

Visited on 17/07/09 by ALA. Semi-improved neutral grassland with frequent creeping cinquefoil, crested dog's-tail, Yorkshire fog, false oat-grass, cock's-foot and occasional self-heal, cut-leaved crane's-bill, red clover, white clover, ragwort, Timothy, bradleaved dock and rare lesser stitchwort, meadow vetchling, bird's-foot trefoil, common knapweed, red fescue and black meddick. Visited on 17/07/09 by ALA. Poor semi-improved grassland grazed by cows. Abundant Yorkshire fog, occasional meadow buttercup, red clover perennial rye-grass, rare meadow vetchling, tufted hair-grass, sweet vernal grass, and locally frequent bird's-foot-trefoil and lesser stitchwort. Grassland is very short, grazed in parts, and there is lots of nutrient input. Visited on 17/07/09 by ALA. Grey heron seen along river. Visited on 17/07/09 by ALA. Fenced-off area of tall ruderal, surrounded by willow. Visited on 17/07/09 by ALA. Poor semi-improved neutral grassland which is herb rich. Abundant red clover, frequent self-heal, bird's-foot-trefoil, creeping buttercup, ribwort plantain, bent spp., crested dog's-tail, and rare common centaury, lesser stitchwort, and locally frequent jointed rush. Visited on 17/07/09 by ALA. Dense scrub by the road with tall ruderal understorey extending north by the plantation. Visited on 17/07/09 by ALA. Short semi-improved grassland road verge containing abundant creeping cinquefoil, frequent common knapweed, red fescue, bird's-foot-trefoil, false oat-grass, and rare oxeye daisy. A small parcel of semi-natural broad-leaved woodland exists on the southeast end of the verge. Visited on 17/07/09 by ALA. Uncut strip of poor sem-improved grassland with frequent red fescue, false oat-grass, Yorkshire fog, red clover, creeping ciquefoil. Visited on 17/07/09 by ALA. The margins of this field by the road contain occasional common knapweed and musk mallow.

4.) Large semi-improved, poorly drained field with large patches of *Juncus* sp. to the east. No access for further identification.

Visited on 17/07/09 by ALA. Poor semi-improved grassland grazed by cows. Occasional meadow foxtail, abundant Yorkshire fog, occasional false fox sedge, *Poa* sp., cock's-foot, rare crested dog's-tail, and very rare bird's-foot-trefoil. Large patches of hard rush throughout the field. Visited on 22/07/09 by ALA. Tall ruderal patch of frequent common nettle, creeping thistle, occasional mugwort, and locally abundant hemlock with rare red campion. Visited on 22/07/09 by ALA. Intact hedge with running water under with good water level and banks. Vegetation/emergent begetation including brooklime, bulrush, wild angelica and gipsywort. Visited on 31/07/09 by ALA. Poor semi-improved grassland with frequent ribwort plantain, occasional selfheal, ragwort, crested dog's-tail, creeping buttercup, and rare overall bird's-foot-trefoil. Visited on 31/07/09 by ALA. Semi-improved neutral grassland grazed by horses. Frequent creeping buttercup, common knapweed, ribwort plantain, red bartsia, white clover, and occasional ragwort, broad-leaved dock, yarrow, selfheal, and rare bird's-foot-trefoil. Visited on 31/07/09 by ALA. Semi-improved neutral grassland with frequent creeping buttercup, bird's-foot-trefoil, crested dog'd-tail,

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false oat-grass, and occasional red fescue, meadow vetchling, ribwort plantain, white clover, red clover, and rare smooth rush and lesser stitchwort. Visited on 31/07/09 by ALA. Broad-leaved semi-natural woodland by steep bank of dried pond. Canopy dominated by oak. Almost bare ground, limited flora. Visited on 31/07/09 by ALA. Not separated by boundary from the adjacent improved grassland, this grassland is uncut and ungrazed, dominated by tall grasses including false oat-grass, Yorkshire fog, Timothy, but also frequent red and white clover, creeping buttercup, meadow vetchling, and rare crested dog's-tail, common knapweed and common sorrel are found.

5.) Poor semi-improved grassland dominated by *Arrhenatherum elatius* and horse grazed.

Visited on 17/07/09 by ALA. Tussocky, semi-improved neutral grassland with occasional meadow vetchlings, meadow foxtail, cock's-foot, smooth rush, Timothy, false oat-grass, and rare lesser stitchwort, bird's-foot-trefoil, tufted hair-grass and locally abundant hard rush, willowherbs and umbellifers (unconfirmed).

6.) A mosaic of semi-improved grassland, tall ruderals and scrub. The grassland is dominated by *Dactylis glomerata* and *Elytrigia repens* with frequent *Arrhenatherum elatius* and occasional *Deschampsia caespitosa*. Rosebay willowherb is interspersed with dock, nettle, hogweed and cow parsley and patches of dense bramble, dog rose and hawthorn.

7.) Area of mature willow, coppiced and pollarded some time in the distant past. Beneath is occasional elder and hazel scrub with a ground layer dominated by nettles.

8.) No access - but from the road appears to be poor semi-improved old flood meadow with frequent *Poa* sp. (*trivialis* ?), and *Dactylis glomerata* and occasional *Arrhenatherum elatius*, spear thistle and patches of *Juncus* sp..

9.) An area of good semi-improved grassland on a bowl shaped island surrounded by dense hawthorn and black thorn scrub, with frequent snowberry, dog rose and bramble. The edges of the bowl contain abundant *Poa trivialis*, ribwort plantain and creeping cinquefoil with occasional bulbous buttercup, red bartsia, black medick, ox-eye daisy, *Cynosurus cristatus*, hoary plantain and selfheal. The central depression is poorly drained with a reinforced channel running across the middle and contains frequent *Dactylis glomerata*, *Arrhenatherum elatius*, *Holcus lanatus*, patches of black knapweed, red clover and occasional *Deschampsia caespitosa*, *Carex nigra*, *Juncus effusus* and hogweed. Visited on 17/07/09 by ALA. Broad-leaved plantation with very dense understorey. Canopy of ash mainly with some alder, and understorey with frequent hawthorn, blackthorn and few sycamore. Ground flora with frequent common nettle, creeping cinquefoil, wood avens, ground ivy, garlic mustard and frequent ivy in places. Also rare fern and dead wood is frequent throughout.

10.) Arable - area of set aside game crop.

11.) An old orchard over poor semi-improved grassland dominated by coarse grasses such as *Arrhenatherum elatius*, *Dactylis glomerata* and occasional *Deschampsia caespitosa* and *Holcus lanatus*.

12.) Apparently unmanaged grassland with abundant *Arrhenatherum elatius* and *Dactylis glomerata* and frequent *Poa trivialis*, black knapweed, nettle and cow parsley and occasional *Holcus lanatus*, ragwort and broad-leaved dock. A drainage channel across the middle is lined by scattered bramble scrub.

13.) Semi-improved field with frequent *Agrostis* sp., *Poa trivialis*, *Poa pratensis* and occasional *Dactylis glomerata*, *Festuca rubra*, *Arrhenatherum elatius*, black knapweed and broad-leaved dock.

Visited on 17/07/09 by ALA. Still semi-improved grassland, however fine herbs are not abundant. There is frequent red fescue, frequent field bindweed. However, bird's-foot-trefoil, meadow vetchling, common knapweed, lesser stitchwort are all found rare. The

grassland is more species towards the ditch and linear scrub. There is locally abundant tufted hair-grass and frequent sweet vernal at the southwest corner of the field.

14.) Poor semi-improved grassland with frequent *Agrostis* sp., *Poa trivialis* and occasional *Dactylis glomerata*, *Holcus lanatus* and *Arrhenatherum elatius*. An area of bramble scrub and tall ruderal species such as rosebay willowherb, teasel and prickly lettuce is spreading from the hedgerow adjacent to the road. Also present are scattered creeping and spear thistle, nettle and broad-leaved dock.

Visited on 17/07/10 by ALA. Semi-improved neutral grassland with abundant creeping buttercup, frequent bird's-foot-trefoil, meadow buttercup, rare common knapweed, lesser stitchwort. grassland is very wet in places where smooth rush is found abundant with rare hard rush. also rare tufted vetch is found and locally frequent white dead-nettle.]#

15.) Small area of broad-leaved woodland comprised of willow and alder with an understorey of young willow, occasional hazel, dog rose, privet and snowberry. The ground flora is mostly ivy covered with occasional bramble, dog mercury, herb Robert, nettle and occasional *Dryopteris filix-mas*.

16.) Appears to be a seeded hay crop that has been left uncut, consisting of *Phleum pratense* and *Poa pratensis*.

Visited on 17/07/09 by ALA. Semi-improved grassland, similar field of sp06s13, but more species rich. Abundant creeping buttercup, frequent cock's-foot, false oat-grass, bent spp., and occasional meadow vetchling, Timothy, sweet vernal grass, ragwort, smooth rush, Yorkshire fog and rosebay willowherb. Also rare common knapweed, creeping cinquefoil, and locally frequent tufted vetch, tufted hair-grass, and lesser stitchwort.17.) Semi-improved field with frequent *Agrostis* sp., *Poa trivialis*, *Poa pratensis* and occasional *Dactylis glomerata*, *Festuca rubra*, *Arrhenatherum elatius*, black knapweed and broad-leaved dock.

18.) *Arrhenatherum elatius* grassland with occasional *Poa* spp., *Cynosurus cristatus*, *Dactylis glomerata* and black knapweed.

Visited on 31/07/09 by ALA. Tussocky semi-improved neutral grassland dominated by false oat-grass, with frequent Timothy, *Poa* sp., cock's-foot, perennial rye-grass, and occasional mugwort, creeping buttercup, ragwort, field bindweed, crested dog's-tail, red fescue, rare meadow vetchling, and rare bird's-foot-trefoil.

19.) Large area of semi-improved grassland on a north facing slope. At the bottom of the slope there is a drainage ditch largely overgrown by *Dactylis glomerata* and *arrhenatherum elatius* and lined by scattered dog rose and bramble. At the eastern edge the ditch contains *Carex* sp., *Juncus effusus* and *Glyceria* sp. where there seems to be permanent standing water, with *Deschampsia caespitosa* and *Holcus lanatus* surrounding. Further up the slope *Poa trivialis*, *Arrhenatherum elatius*, *Phleum pratense*, *Agrostis stolonifera*, creeping cinquefoil and black knapweed are common with occasional *Festuca rubra*, *Cynosurus cristatus* and red bartsia. There is scattered patches of bramble and dog rose scrub throughout, dense in places.

Visited on 31/07/09 by ALA. Semi-improved neutral grassland used for recreation. Dominant false oat-grass, frequent creeping thistle, bramble, occasional common knapweed, ragwort, Timothy, creeping cinquefoil, meadow foxtail, common nettle, common sorrel, locally frequent rosebay willowherb, and rare bird's-foot-trefoil, meadow vetchling, false fox sedge, lesser stitchwort, and oxeye daisy. This field is a potential LWS.

21.) Area of apparently unmanaged grassland with abundant *Agrostis stolonifera* and frequent *Poa* spp., *Dactylis glomerata* and *Arrhenatherum elatius* and occasional *Festuca rubra* and *Cynosurus cristatus*. Forbs include black knapweed, creeping cinquefoil and occasional red bartsia. Visited on 17/07/09 by ALA. Poor semi-improved grassland. small field parcel by road. Abundant false oat-grass, frequent cock's-foot, yarrow, ribwort plantain,

occasional wood avens, *Viola* sp., and speedwells. Visited on 17/07/09 by ALA. Semi-improved neutral grassland with frequent common knapweed, false oat-grass, creeping buttercup, and occasional meadow vetchling, broadleaved dock, hard rush, smooth rush, meadow foxtail, bent spp., ragwort, selfheal, yarrow, common mouse-ear, mugwort, hedge woundwort, cut-leaved crane's-bill, cock's-foot, lesser stitchwort. Extensive patches of tall ruderals are found throughout with species including common nettle, creeping and spear thistle, and willowherbs. Visited on 17/07/09 by ALA. Pond covered almost entirely by duckweed. Bank with broadleaved dock, smooth rush, creeping thistle, hogweed, false oat-grass, tufted hair-grass, and locally abundant marsh foxtail. Pond shaded by ash and oak standards and blackthorn scrub. Visited on 17/07/09 by ALA. Fenced around area which is dominated by tufted hair-grass. Also present broadleaved dock, creeping thistle and occasional bird's-foot-trefoil. Visited on 17/07/09 by ALA. A few standard trees. Visited on 17/07/09 by ALA. Tall ruderal by car park of disused building. Abundant ground elder, false oat-grass, common nettle, occasional ragwort, horse radish, hogweed, field bindweed and one young sycamore. Visited on 17/07/09 by ALA. Ash standards. Visited on 17/07/09 by ALA. Poor semi-improved grassland of abundant creeping buttercup, creeping thistle, frequent *Poa* sp., Timothy, Yorkshire fog, and occasional common mouse-ear. Also locally frequent lesser stitchwort. Grassland is used by butterflies: ringlet and meadow brown seen.

SP06w

1.) River Arrow. There is very little in the way of aquatic vegetation along this stretch of the river; other than filamentous algae; occasional water crowfoot and small patches of *Phalaris arundinacea* and *Glyceria* sp. around meanders. The bank is grazed right down to the water in many areas and poaching by animals is common; leaving relatively sparse and scattered patches of tall herb and mainly hawthorn scrub with occasional willow pollard. There is some evidence of present water vole activity. The river retains many glide-run-riffle sequences and does not appear to have been recently resectioned or deepened.

Visited on 22/07/09 by ALA. Emergent vegetation still limited, but bankside vegetation abundant with occasional common nettle, ragwort, cock's-foot, hogweed, cleavers, false oat-grass, common figwort. Locally abundant Indian balsam further up north of path and patches of willowherb alongside. No evidence of present water vole activity (tracks, burrows).

2.) Poor semi-improved; sheep grazed; old flood meadow with abundant *Cynosurus cristatus* and *Poa pratensis*; and occasional *Festuca rubra*; *Holcus lanatus* and *Lolium perenne*. Forbs are limited to common mouse-ear and bulbous buttercup with occasional creeping cinquefoil. A hedge line has been removed leaving scattered hawthorn scrub. Visited on 22/07/09 by ALA. Broad-leaved semi-natural woodland. Small area dominated by oak with a dense hawthorn and blackthorn understorey and frequent bramble scrub. Occasional willow and rare field maple by the road and rare honeysuckle. Limited ground flora; rare meadowsweet exists by the road, south of copse. Visited on 22/07/09 by ALA. Broad-leaved plantation on steep bank by the road. Visited on 22/07/09 by ALA. Small pond with shallow water and one open/split willow tree on one bank.

3.) Poor semi-improved; sheep grazed; old flood meadow with abundant *Cynosurus cristatus* and *Poa pratensis*; and occasional *Festuca rubra*; *Holcus lanatus* and *Lolium perenne*. Forbs are limited to common mouse-ear and bulbous buttercup with occasional creeping cinquefoil.

4.) Tributary of the River Arrow lined by alder; willow and hawthorn with

occasional dogwood; patchy bramble and tall herbs. Aquatic vegetation is limited to occasional brooklime and watercress. Has been resectioned and straightened along some of it's length.

5.) Large garden pond with scattered hawthorn scrub and amenity grassland surrounding. Contains *Typha latifolia*; *Juncus effusus* and *J. inflexus*.

6.) Poor semi-improved cattle grazed pasture containing frequent *Poa pratensis*; *Dactylis glomerata*; *Arrhenatherum elatius* and *Holcus lanatus* with occasional *Lolium perenne*. Forbs include creeping buttercup; creeping cinquefoil; red and white clover and occasional meadow buttercup and common mallow. There are scattered patches of nettle and creeping thistle.

7.) Species rich road verge and ditch alongside Morgrove Coppice; with a hedgerow of abundant hawthorn as well as blackthorn; dogwood; dog rose; field maple and occasional hazel and two wild service trees. The verge and ditch contain wet areas with creeping buttercup; meadowsweet; *Deschampsia caespitosa* and occasional *Phalaris arundinacea*. Also present are frequent *Bromus ramosus*; *Brachypodium sylvatica*; *Calamagrostis epigejos*; dog rose; rosebay willowherb; ground ivy; bugle; selfheal and red campion. There is occasional wood spurge; lady's bedstraw; betony; *Dryopteris filix mas* and possibly wood speedwell along the drier stretches of verge.

8.) Morgrove Coppice. No access; but from the road it appears to be mostly Scot's pine plantation (approx. 50 years) with occasional larch. A survey in 1982 recorded willow and hazel coppice also present and a ground flora of abundant bramble and frequent wood sage and red campion with grassy rides containing bluebell and *Juncus effusus*.

9.) Churchyard. Recently mown (with cuttings left on top) and including *Poa pratensis* and patches of *Festuca rubra*. Forbs include lady's bedstraw and field speedwell. Adder's tongue fern has been reported from this site.

10.) Area of young broad-leaved plantation with patchy scrub and tall ruderals and a small area of rough grassland with *Arrhenatherum elatius* and *Dactylis glomerata*.

11.) Arable field with set aside strip along western boundary.

12.) Arable field with set aside strip on north-eastern edge.

13.) An area of game crop consisting of seeded *Festuca arundinacea* with squares of mixed wheat and barley used for pheasant and partridge (both French and grey) cover and food.

14.) The Alders. No access. A previous survey undertaken in 1982 describes the area as broadleaved plantation woodland with oak standards; hazel coppice and frequent bramble to the north and east. The central area was dominated by willow and alder; while the south section was scrubby tall herb with large oaks only on the margins. Some conifers and rhododendrons also occurred in the east of the wood.

15.) Poor semi-improved grassland with abundant *Cynosurus cristatus* and *Poa pratensis* and frequent *Dactylis glomerata* and *Lolium perenne*. *Deschampsia caespitosa* and *Hordeum secalinum* are occasional and there is very few forbs.

16.) Arable field - currently set aside.

17.) Studley Thorns. Broad-leaved plantation. No access. A previous survey in 1982 describes the area as mixed wood and scrub with a lake. There are said to be several exotic species of tree and extensive patches of rhododendron and snowberry under the ash canopy. The lake had little marginal vegetation and there was a scrubby area of hawthorn and blackthorn with very little ground flora.

18.) Studley Thorns Pond. Unable to approach the pond close enough for a thorough survey but it seems to have declined considerably since a 1982 survey. At the time of this survey the pond was almost dry; surrounded by patchy hawthorn and field maple scrub with a significant amount of agricultural debris Visited on 17/09/09 by MF. River Arrow

shallow and broad at this point with a couple of small islands covered with common nettle and occasional Himalayan balsam. Kingfisher and heron seen.

SP06x

- 1.) Pond surrounded by hawthorn and dog rose scrub and young oak and sycamore. It is stagnant with no aquatic or emergent vegetation. Moorhen present.
- 2.) Mixed plantation of mature Scot's pine, European larch, oak, sycamore and horse chestnut with an understorey of young sycamore and elder and occasional patches of snowberry and Japanese knotweed. The ground flora is made up of nettle, ground ivy, ivy, cow parsley and occasional *Bromus ramosus*, wood avens, common hemp nettle, and red campion. A drainage ditch alongside the patch contains abundant *Asplenium scolopendrium*.
Visited on 18/09/08 by SM/CN. Also contains turkey oak. Visited on 18/09/08 by SM/CN. Improved grassland with crested dogtail and scattered trees. Visited on 18/09/08 by SM/CN. Improved grassland with patch of oak and horse-chestnut standards. Visited on 22/07/09 by ALA. Hedge with trees and dried ditch underneath. Locally abundant meadowsweet, occasional hedge bindweed, rosebay willowherb, cock's-foot, false oat-grass, creeping thistle, hedge woundwort, and locally frequent tare sp. in the ditch.
- 3.) Area of derelict orchard with young oak, ash, bramble and hawthorn scrub (dense in places) and old apple trees interspersed with tall ruderal species such as nettle and creeping thistle. The remaining grassland is dominated by *Poa trivialis* and *Dactylis glomerata*.
- 4.) Mostly semi-natural oak woodland with occasional Scot's pine. The understorey is comprised of self-seeded sycamore, hawthorn, field maple and occasional wild privet while the ground flora contains abundant bramble with wood avens, *Bromus ramosus*, wood dock and red campion.
- 5.) Large artificial pond, mostly open on all sides with little cover vegetation. There are small patches of *Carex riparia*, *Juncus inflexus* and *Typha latifolia* along the edges and no aquatic vegetation other than filamentous algae.
- 6.) Mixed plantation woodland approx. 25 - 30 years old with a dense canopy comprised of oak, ash, Scot's pine and larch with occasional silver birch. The understorey consists of field maple, hawthorn and young oak, covering a sparse ground flora of bramble, red campion, ground ivy, herb robert, *Bromus ramosus* and *Dryopteris filix-mas*. Around the edges of the wood mature oak and ash can be found with elm suckers, field maple and blackthorn. The wood is used intensively for pheasant rearing.
- 7.) Ash, oak woodland with field maple and alder and an understorey of hawthorn, holly and self-seeded sycamore. The ground flora includes ivy, dog mercury, herb robert and wood avens with scattered *Poa nemoralis* and *Brachypodium sylvaticum*.
- 8.) Large area of semi-improved grassland split into horse paddocks. The paddocks are species poor, dominated by *Dactylis glomerata* and *Poa trivialis* with occasional *Holcus lanatus* and *Arrhenatherum elatius* and tall ruderals such as dock, creeping thistle and nettle.
- 9.) Large area of semi-improved grassland split into horse paddocks. The paddocks are species poor, dominated by *Dactylis glomerata* and *Poa trivialis* with occasional *Holcus lanatus* and *Arrhenatherum elatius* and tall ruderals such as dock, creeping thistle and nettle.
- 10.) Pond surrounded by dense hawthorn scrub, with no apparent aquatic vegetation but creeping buttercup, nettle and water dock along the banks.
- 11.) Pond surrounded by dense hawthorn scrub (with much tipped

rubbish). The pond contains abundant blanket weed with great willowherb, nettle and occasional *Juncus effusus* along the banks.

12.) Poor semi-improved horse grazed pasture on a south facing slope containing abundant *Poa pratensis* with *Dactylis glomerata* and *Phleum pratense*. Forbs include creeping and bulbous buttercup, selfheal, daisy, red and white clover, Autumn hawkbit and occasional patches of creeping cinquefoil and dove's-foot crane's-bill. Dog violets can be found in the top northern corner.

Visited on 18/09/08 by SM/CN; Contains llamas. Now improved grassland.13.) No access but appears to be poor semi-improved pasture with *Cynosurus cristatus* and areas of *Alopecurus pratensis* with occasional *Poa pratensis*, *Dactylis glomerata* and *Phleum pratense* and patches of spear thistle.

Visited on 18/09/08 by SM/CN; Contains llamas. Scarlet pimpernel, cut-leaved crane's-bill, lesser stitchwort.14.) No access but appears to include *Arrhenatherum elatius*, *Dactylis glomerata* and *Poa* sp. with frequent black knapweed.

Visited on 18/09/08 by SM/CN; Contains llamas. Scarlet pimpernel, cut-leaved crane's-bill, lesser stitchwort.

15.) Poor semi-improved cattle grazed pasture containing *Poa pratensis*, *Cynosurus cristatus* and occasional *Phleum pratense* and *Dactylis glomerata*. Forbs are sparse but include creeping and bulbous buttercup and occasional selfheal, common mouse-ear, creeping cinquefoil, greater plantain and red and white clover.

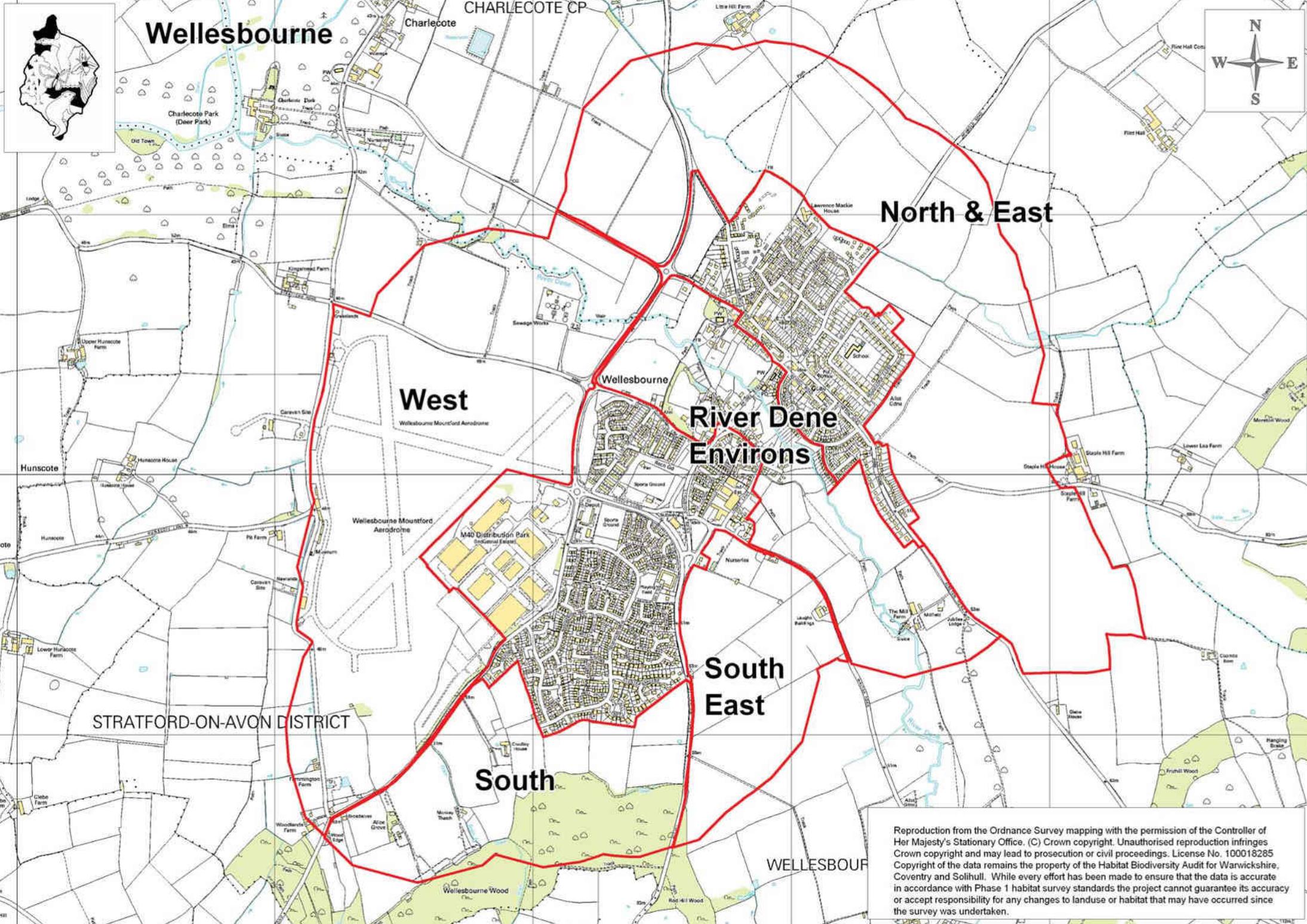
Visited on 18/09/08 by SM/CN; Contains llamas. Now improved grassland.

16.) Poor semi-improved cattle grazed old orchard with field and dog rose, hawthorn, elder and bramble scrub in patches and old apple trees. Grasses include *Poa pratensis*, *Cynosurus cristatus* and occasional *Phleum pratense* and *Dactylis glomerata*. A dried up pond has become more or less completely scrubbed over with hawthorn and elder leaving only nettle and creeping buttercup in a few remaining boggy areas.

Visited on 18/09/08 by SM/CN; Contains llamas. Now improved grassland.

17.) Area of dense hawthorn and elder scrub with old apple and pear trees and occasional oak and ash. Presumed to be old orchard.

18.) No access. A 1982 survey describes this area as mixed age broad-leaved plantation with a ground flora dominated by dog mercury and infrequent bramble. Visited on 18/09/08 by SM/CN. Patch contains fruit trees, possibly part of an old orchard.



Wellesbourne

CHARLECOTE CP

North & East

West

River Dene
Environs

South
East

South

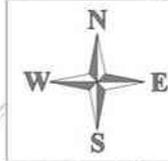
STRATFORD-ON-AVON DISTRICT

WELLESBOURNE

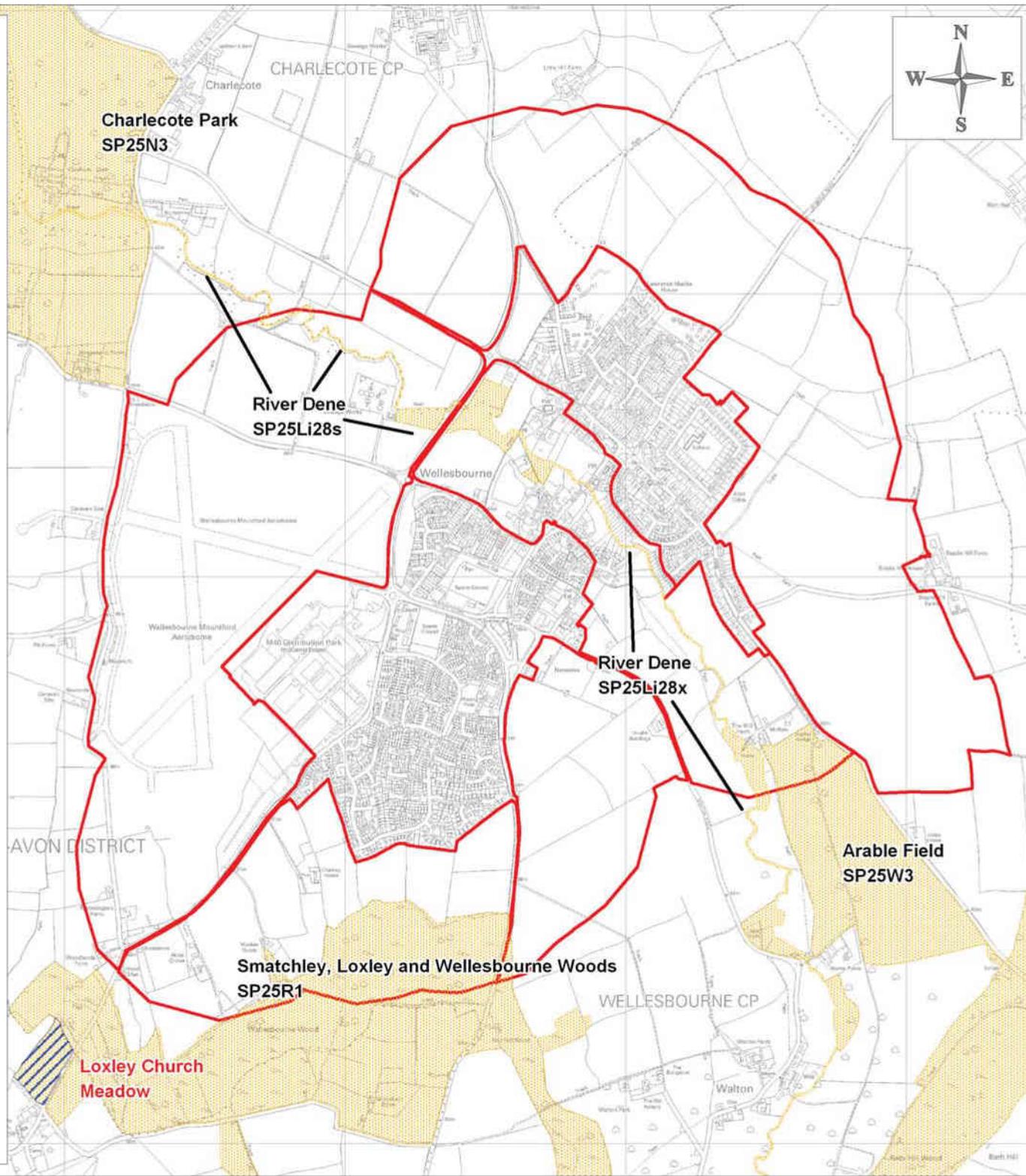
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Wellesbourne Local Sites



-  Potential Local Wildlife Site (pLWS/SINC)
-  Local Wildlife Site (LWS/SINC)
-  Rejected potential Local Wildlife Site
-  Destroyed Local Wildlife Site
-  SSSI
-  RIGS
-  LNR



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Wellesbourne - HBA

Phase I Habitat Survey

Habitat Types

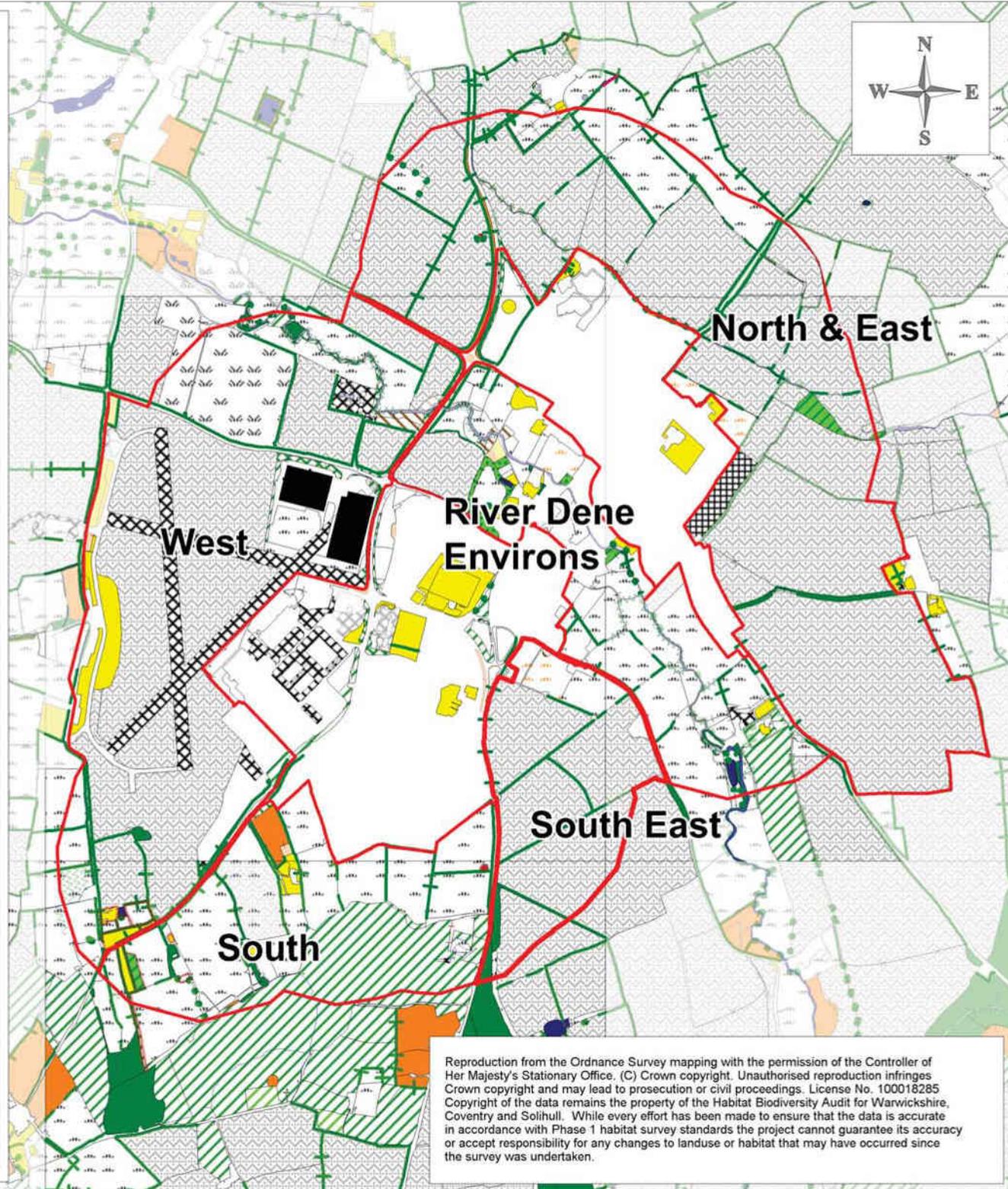
	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		

NB Data with a survey date before 2005 is displayed with muted tones



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Wellesbourne River Dene Environs

Area: 71.6 hectares

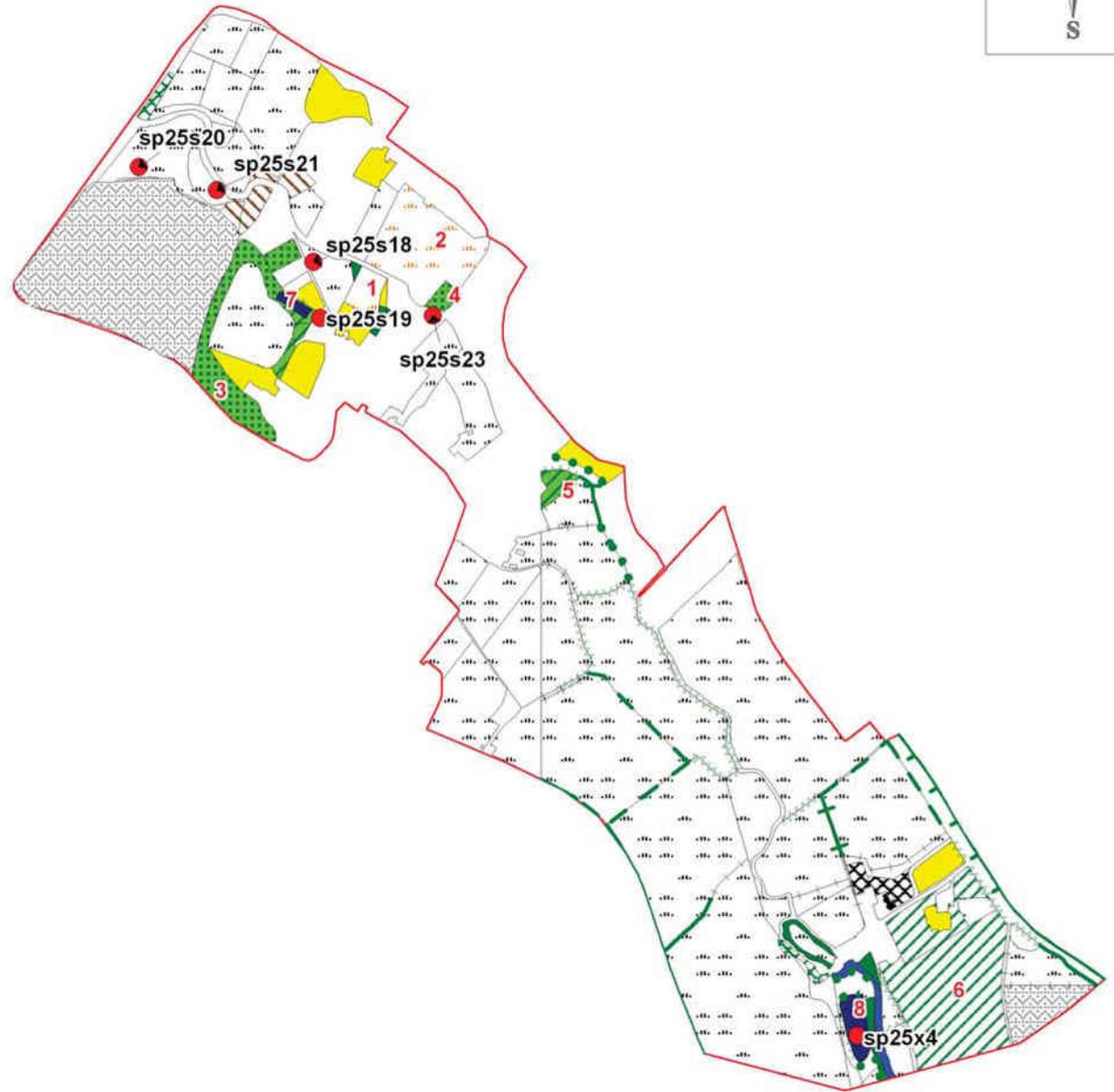


Phase I Habitat Survey Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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Wellesbourne River Dene Environs

Species

-  Buffer zone for otter, water vole or white-clawed crayfish
-  Buffer zone for great crested newt, adder, grass snake or slow worm
-  Buffer zone for bat

-  Brown Hare
-  Reptile/amphibian
-  Barn Owl
-  BAP Butterfly
-  Black poplar
-  Veteran tree
-  County rare plant

Warwickshire Biological Records Centre
Museum Field Services
The Butts
Warwick
CV34 4SS
Tel: (01926) 418060
Fax: (01926) 412975



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Wellesbourne South East

Area: 47.8 hectares

Phase I Habitat Survey

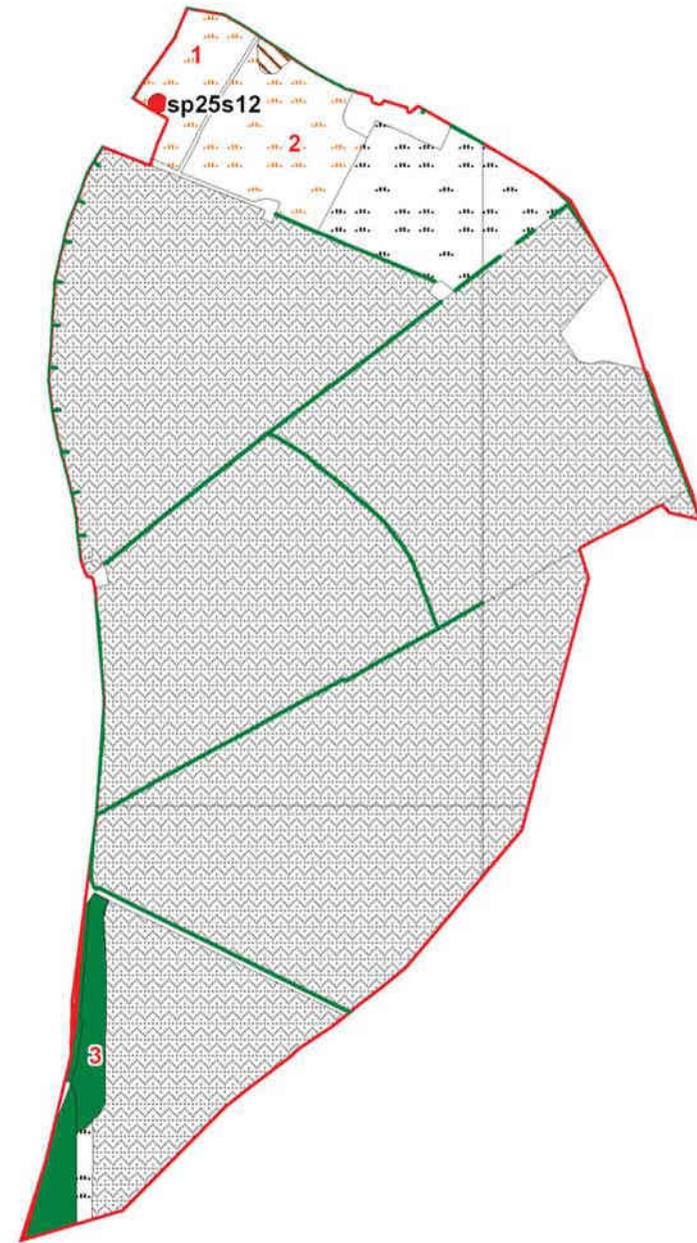
Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
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	A22 (Scattered scrub)		I21 (Quarry)
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	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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Wellesbourne South East

Species

 Buffer zone for otter, water vole
or white-clawed crayfish

 Buffer zone for great crested newt,
adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

 Barn Owl

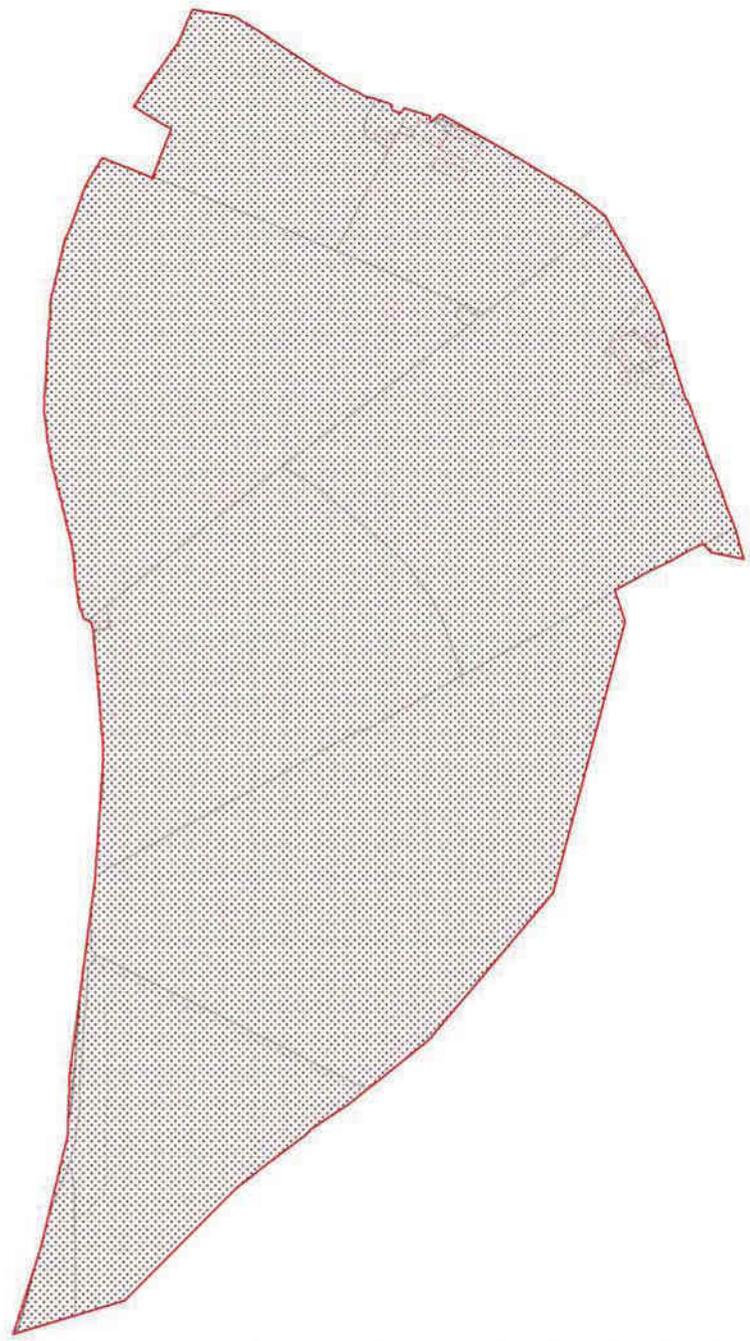
 BAP Butterfly

 Black poplar

 Veteran tree

 County rare plant

Warwickshire Biological Records Centre
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The Butts
Warwick
CV34 4SS
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Wellesbourne South

Area: 71.1 hectares



Phase I Habitat Survey

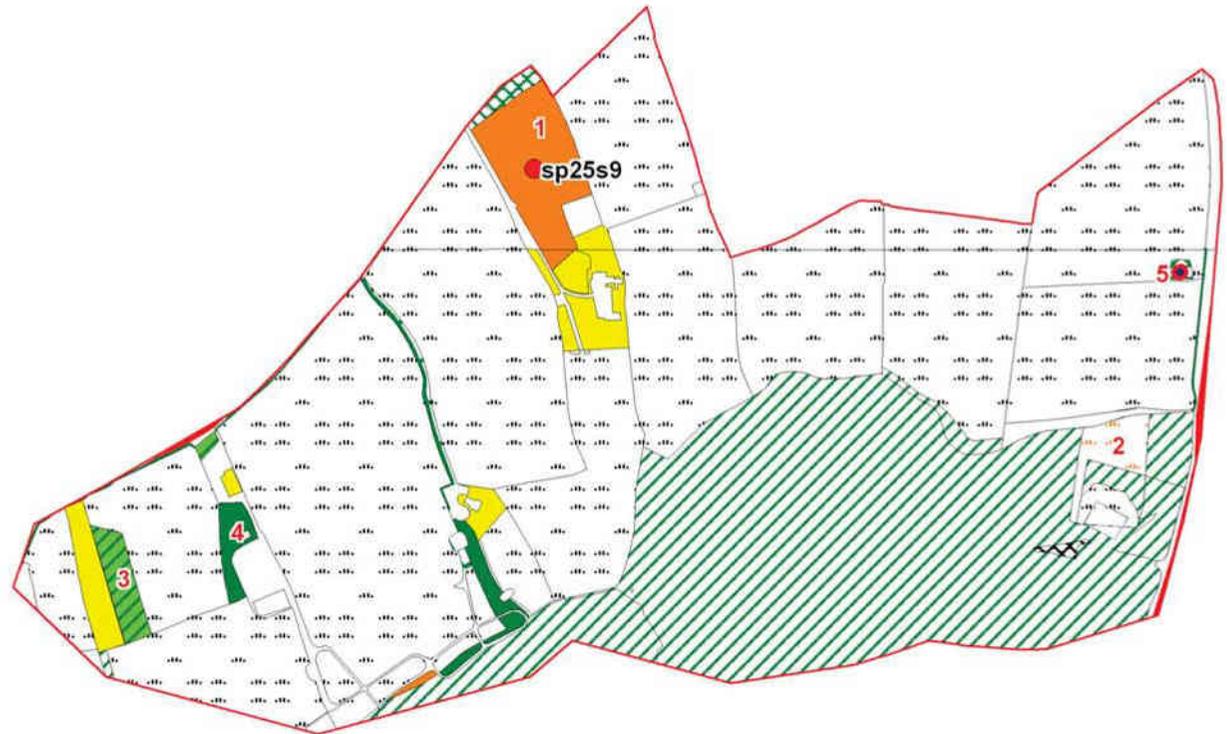
Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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Wellesbourne South

Species

 Buffer zone for otter, water vole
or white-clawed crayfish

 Buffer zone for great crested newt,
adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

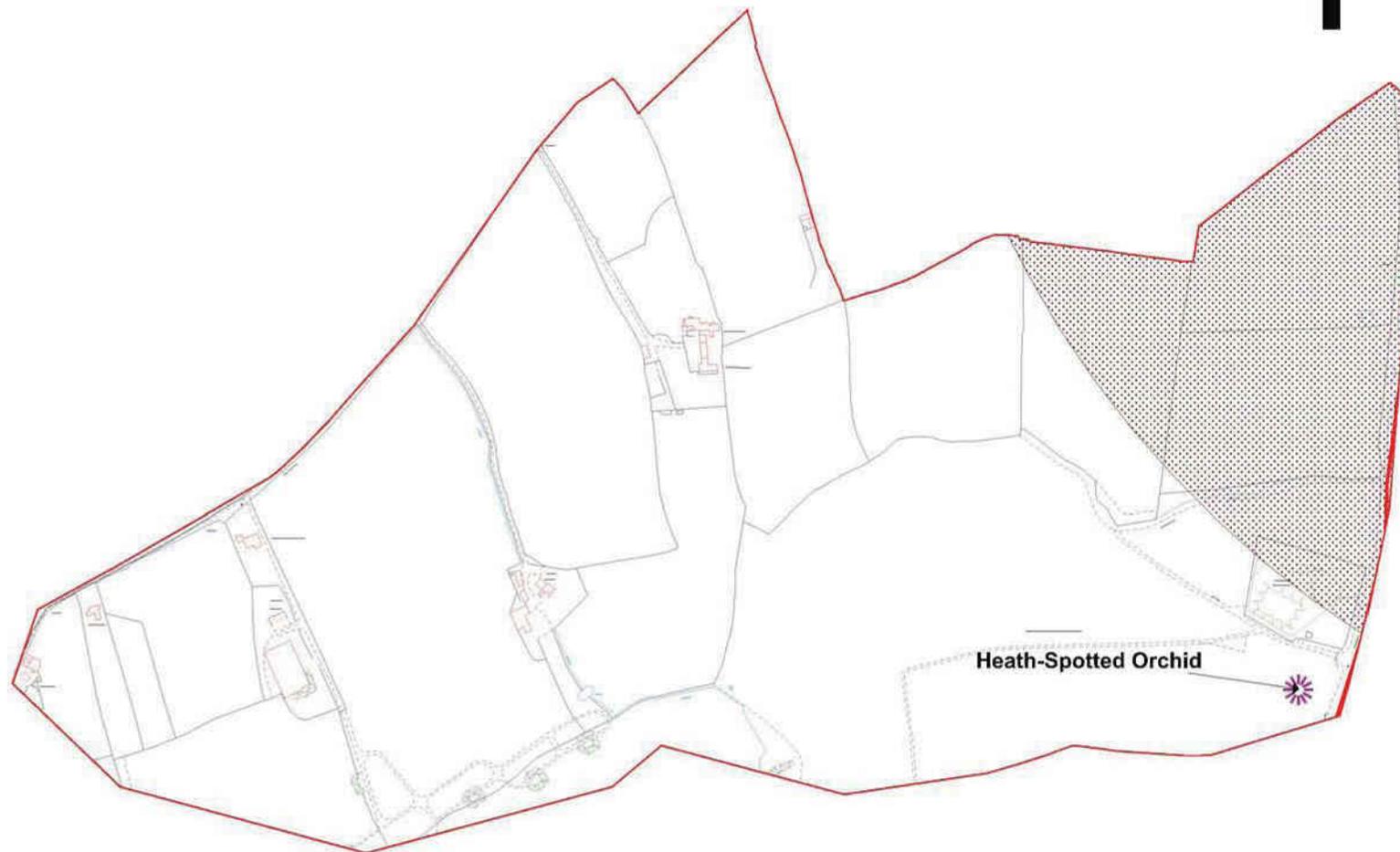
 Barn Owl

 BAP Butterfly

 Black poplar

 Veteran tree

 County rare plant





Wellesbourne West

Area: 171.6 hectares



Phase I Habitat Survey

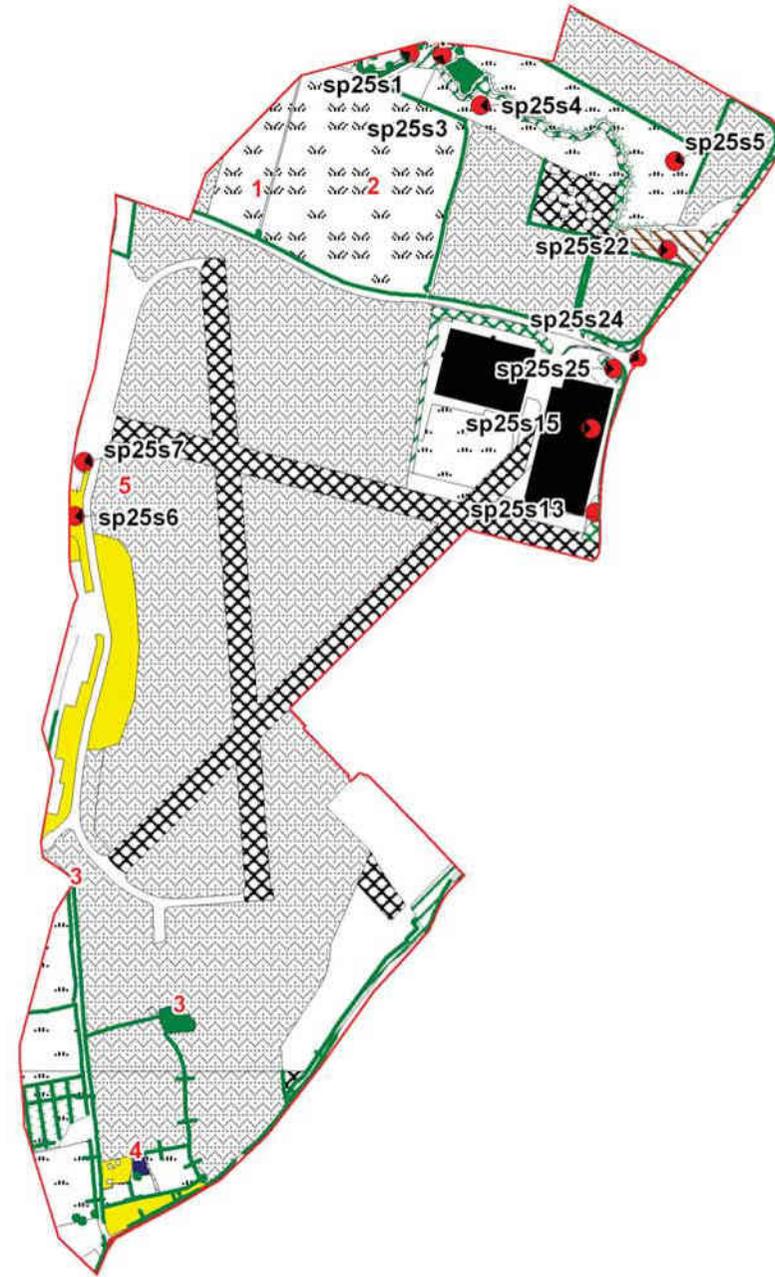
Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



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Wellesbourne West

Species

 Buffer zone for otter, water vole
or white-clawed crayfish

 Buffer zone for great crested newt,
adder, grass snake or slow worm

 Buffer zone for bat

 Brown Hare

 Reptile/amphibian

 Barn Owl

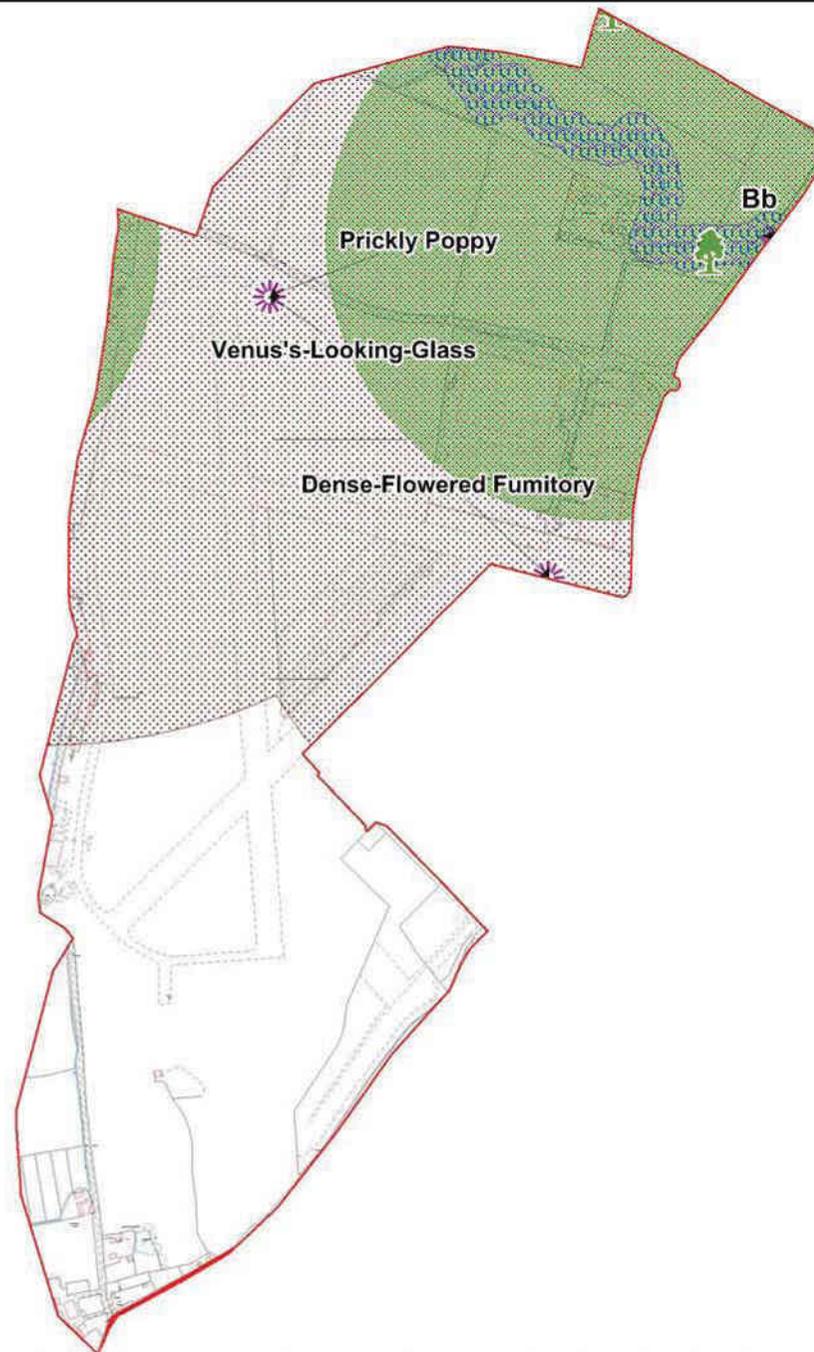
 BAP Butterfly

 Black poplar

 Veteran tree

 County rare plant

Warwickshire Biological Records Centre
Museum Field Services
The Butts
Warwick
CV34 4SS
Tel: (01926) 418060
Fax: (01926) 412975





Wellesbourne North East

Area: 192.9 hectares



Phase I Habitat Survey

Habitat Types

	A111 (Broad-leaved semi-natural woodland)		C11 (Continuous bracken)
	A112 (Broad-leaved plantation)		C31 (Tall ruderal)
	A121 (Coniferous semi-natural woodland)		C32 (Non-ruderal)
	A122 (Coniferous plantation)		F1 (Swamp)
	A131 (Mixed semi-natural woodland)		F22 (Inundation vegetation)
	A132 (Mixed plantation)		G1 (Standing water)
	A21 (Dense/continuous scrub)		G2 (Running water)
	A22 (Scattered scrub)		I21 (Quarry)
	A31 (Broad-leaved parkland/scattered trees)		I22 (Spoil)
	A32 (Coniferous parkland/scattered trees)		I23 (Mine)
	A4 (Recently felled woodland)		I24 (Refuse tip)
	A5 (Orchard (commercial))		J11 (Arable)
	B11 (Unimproved acidic grassland)		J112 (Allotments)
	B12 (Semi-improved acidic grassland)		J113 (Set-aside)
	B21 (Unimproved neutral grassland)		J12 (Amenity grassland)
	B22 (Semi-improved neutral grassland)		J13 (Ephemeral/short perennial)
	B31 (Unimproved calcareous grassland)		J14 (Introduced shrub)
	B32 (Semi-improved calcareous grassland)		J36 (Buildings)
	B4 (Improved grassland)		J4 (Bare ground)
	B5 (Marsh/marshy grassland)		K (Unclassified)
	B6 (Poor semi-improved grassland)		

Phase 1 Habitat Survey

Linear Features

	A21 (Linear scrub)		J24 (Fence)
	A3 (Linear trees)		J25 (Wall)
	G1 (Standing water)		J26 (Dry ditch)
	G2 (Running water)		J27 (Boundary removed)
	J21 (Intact hedge)		J28 (Earth bank)
	J22 (Defunct hedge)		all others
	J23 (Hedge with trees)		



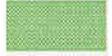
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WARWICKSHIRE
BIOLOGICAL
RECORDS CENTRE



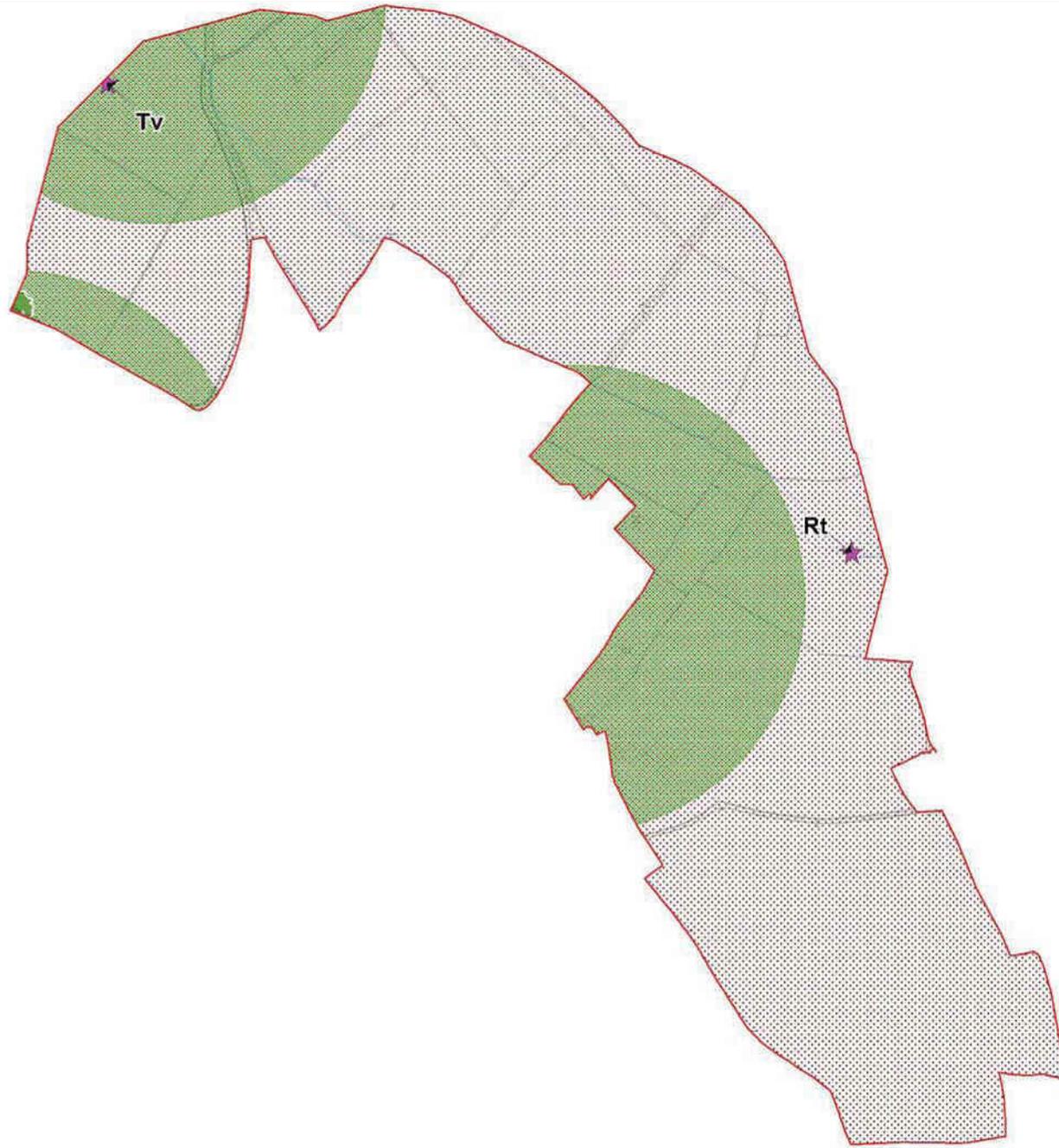
Wellesbourne
North & East

Species

-  Buffer zone for otter, water vole or white-clawed crayfish
-  Buffer zone for great crested newt, adder, grass snake or slow worm
-  Buffer zone for bat

-  Brown Hare
-  Reptile/amphibian
-  Barn Owl
-  BAP Butterfly
-  Black poplar
-  Veteran tree
-  County rare plant

Warwickshire Biological Records Centre
Museum Field Services
The Butts
Warwick
CV34 4SS
Tel: (01926) 418060
Fax: (01926) 412975



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Key for Reptile/Amphibian species

Tv	<i>Triturus vulgaris</i> (AKA <i>Lissotriton vulgaris</i>)	Smooth Newt
Rt	<i>Rana temporaria</i>	Common Frog
Bb	<i>Bufo bufo</i>	Common Toad
Lv	<i>Lacerta vivipara</i> (AKA <i>Zootoca vivipara</i>)	Common Lizard

Key for Red Listed and UK BAP Butterfly species

Please note that Small Blue and Dingy Skipper are also LBAP species

Cm	<i>Cupido minimus</i>	Small Blue
Cp	<i>Coenonympha pamphilus</i>	Small Heath
Et	<i>Erynnis tages</i>	Dingy Skipper
Lc	<i>Limenitis camilla</i>	White Admiral
Lm	<i>Lasiommata megera</i>	Wall
Pm	<i>Pyrgus malvae</i>	Grizzled Skipper
Swa	<i>Satyrium w-album</i>	White-letter Hairstreak

Appendix of Target Notes relating to Phase 1 Habitat Survey Maps (in alpha-numeric order)

Wellesbourne Target Notes

SP25r

- 1.) Poor semi-improved grassland on the edge of Smatchley Wood; dominated by *Poa* spp.; with *Dactylis glomerata* and occasional *Festuca rubra*. Forbs are sparse including greater plantain; creeping cinquefoil; dove's-foot crane's-bill and patchy creeping thistle and nettle.
- 2.) Ash/oak woodland over hawthorn and occasional elder understorey. The ground flora is uneven with frequent dog mercury and occasional *Bromus ramosus* and wood avens.
- 3.) Ash/oak woodland with frequent sycamore and occasional yew and horse chestnut over hawthorn; elder and occasional box understorey. The ground flora is largely dominated by bramble with frequent dog mercury and occasional *Bromus ramosus*; *Dryopteris filix-mas* and wood avens.
- 4.) An area of nettle with broad-leaved dock and occasional teasel between scattered *Wellingtonia*; ash and elder. Also present are frequent *Poa trivialis*; *Dactylis glomerata*; creeping cinquefoil and ground ivy.
- 5.) An area of nettle with broad-leaved dock and occasional teasel between scattered *Wellingtonia*; ash and elder. Also present are frequent *Poa trivialis*; *Dactylis glomerata*; creeping cinquefoil and ground ivy.
- 6.) Oak/ash canopy with locally frequent sycamore and occasional larch; sweet chestnut and beech over hawthorn and elder understorey with scattered field maple and wild privet. The ground flora is dominated by nettle; bramble and dog mercury with frequent ground ivy; *Poa trivialis* and occasional *Dryopteris filix-mas*; *Festuca rubra*; *Bromus ramosus*; dog violet; *Brachypodium sylvaticum*. There is some hazel to the north with very occasional *Dryopteris dilatata* and wayfaring tree along the road edge.
- 7.) Small lake with a narrow strip of poor semi-improved grassland around the edge. The bank contains frequent *Juncus inflexus*.
- 8.) Wellesbourne Wood. Broad-leaved plantation on a wet north facing slope. Sycamore with ash and oak and patches of silver birch over a mixed understorey of hazel coppice with hawthorn and occasional wild privet; elm; dog rose; blackthorn and field maple. Dogwood and very occasional buckthorn may be found along the edges and rides. The ground flora contains frequent bramble; ground ivy and dog mercury with occasional *Dryopteris filix-mas*; *Bromus ramosus* and *Polystichum aculeatum* along the southern edge.
- 9.) Wellesbourne Wood. The rides contain frequent *Deschampsia cespitosa*; *Carex pendula*; *Carex sylvatica* and *Carex otrubae* with *Brachypodium sylvaticum*; *Poa trivialis*; perforate St. John's wort; *Juncus effusus*; barren strawberry and occasional yellow pimpernel.
- 10.) Scots pine plantation with occasional birch; beech and sycamore and a sparse ground flora of *Poa trivialis* with frequent *Equisetum telmateia* along the roadside.
- 11.) Young ash plantation with birch and occasional sycamore; beech and cherry and an uneven hazel understorey over *Dactylis glomerata*; *Arrhenatherum elatius* and *Deschampsia cespitosa*.

12.) Young ash plantation with birch and occasional sycamore; beech and cherry and an uneven hazel understorey over *Dactylis glomerata*; *Arrhenatherum elatius* and *Deschampsia cespitosa*.

13.) Small area of semi-improved grassland with scattered hawthorn scrub and teasel dominated by *Brachypodium pinnatum* and *Dactylis glomerata* with frequent *Festuca rubra*; *Poa trivialis* and occasional *Brachypodium sylvaticum*. Forbs include frequent burnet saxifrage with occasional crosswort; red bartsia; bristly ox-tongue; agrimony; and hairy St. John's wort.

14.) Loxley Wood. Broad-leaved plantation of sycamore with ash and oak and patches of silver birch over an understorey of hawthorn and blackthorn (dense in places). The ground flora contains frequent bramble; ground ivy and dog mercury with occasional *Dryopteris filix-mas*; and *Bromus ramosus*.

15.) Broad-leaved plantation of sycamore; oak and ash over amenity grassland.

16.) Area of neglected semi-improved grassland over a hard-core and concrete substrate; dominated by *Poa trivialis* and *Festuca rubra* with frequent ragwort; ribwort plantain; bristly ox-tongue; creeping cinquefoil; teasel; self-heal and creeping thistle and occasional burnet saxifrage.

17.) Neglected grassland dominated by *Arrhenatherum elatius*; *Dactylis glomerata*; *Holcus lanatus* with occasional *Poa trivialis*. There are areas of teasel; creeping thistle and occasional *Juncus inflexus* and white campion.

18.) Broad-leaved plantation of sycamore with ash and oak and patches of silver birch over an understorey of hawthorn and blackthorn (dense in places). The ground flora contains frequent bramble; ground ivy and dog mercury with occasional *Dryopteris filix-mas*; and *Bromus ramosus*.

19.) Oakham Coppice. No direct access but appears to be oak and ash woodland with an uneven understorey of hawthorn and elder.

SP25s

1.) River Dene. Largely devoid of aquatic vegetation along this stretch; with occasional branched bur-reed along the edges. The banks are steep with patchy hawthorn and elder scrub over nettle with frequent great willowherb; *Phalaris arundinacea* and occasional purple loosestrife.

2.) Set aside dominated by *Elytrigia repens* with *Lolium perenne*; *Dactylis glomerata*; *Poa pratensis*; *Holcus lanatus* and occasional *Avena* sp.. Sowthistle; broad-leaved dock and ragwort are found throughout with occasional burdock and teasel. There is an area of hawthorn and elder scrub with scattered ash and field maple to the west.

3.) A small area of ash and sycamore with occasional willow within a meander of the River Dene over amenity grassland.

4.) Set aside dominated by *Elytrigia repens* with *Lolium perenne*; *Dactylis glomerata*; *Poa pratensis*; *Holcus lanatus* and occasional *Avena* sp.. Sowthistle; broad-leaved dock and ragwort are found throughout with occasional burdock and teasel.

5.) Set aside dominated by *Elytrigia repens* with *Lolium perenne*; *Dactylis glomerata*; *Poa pratensis*; *Holcus lanatus* and occasional *Avena* sp.. Sowthistle; broad-leaved dock and ragwort are found throughout with occasional burdock and teasel.

6.) Poor semi-improved grassland and amenity dominated by *Poa* spp. and *Lolium perenne* with occasional *Festuca rubra* and *Agrostis tenuis*. Forbs include frequent dandelion; daisy; autumn hawkbit; ribwort plantain and white clover with occasional

black medick; red clover; dove's-foot crane's-bill and creeping ; meadow and bulbous buttercup.

7.) Small area of semi-improved grassland with frequent *Holcus lanatus*; *Dactylis glomerata*; *Lolium perenne*; *Poa pratensis* and occasional *Festuca rubra*. Forbs include frequent dandelion; daisy; autumn hawkbit; ribwort plantain and white clover with occasional black medick; red clover; dove's-foot crane's-bill and creeping ; meadow and bulbous buttercup.

8.) Poor semi-improved grassland with frequent *Lolium perenne*; *Poa pratensis*; *Dactylis glomerata*; *Arrhenatherum elatius* and occasional *Holcus lanatus*. There is frequent creeping cinquefoil and red clover and extensive patches of creeping thistle and nettle with occasional spear thistle.

9.) Poor semi-improved grassland dominated by *Poa pratensis*; *Lolium perenne*; *Phleum pratense* and occasional *Dactylis glomerata* and *Holcus lanatus*. There is frequent creeping buttercup with occasional meadow buttercup; red clover and patches of hogweed and cow parsley.

10.) Small field of rough semi-improved grassland dominated by *Arrhenatherum elatius*; *Dactylis glomerata* with *Holcus lanatus* and frequent broad-leaved dock and occasional creeping cinquefoil.

11.) Verge with frequent *Arrhenatherum elatius*; *Dactylis glomerata*; *Poa pratensis* and occasional *Poa trivialis* and *Festuca rubra*. Forbs include frequent ox-eye daisy and yarrow; locally frequent black knapweed and *Equisetum arvense* with occasional meadow crane's-bill and bird's-foot trefoil between scattered ash and lime saplings.

12.) Neglected semi-improved grassland dominated by *Arrhenatherum elatius* with *Dactylis glomerata* and *Holcus lanatus* as well as ragwort; black knapweed; broad-leaved dock and nettle and encroaching hazel and sycamore scrub.

13.) Area of hard-core and concrete colonised by *Dactylis glomerata*; *Poa* spp.; white and red clover and occasional *Arrhenatherum elatius*; *Festuca rubra*; black knapweed; ox-eye daisy; weld; black medick and ribbed melilot.

14.) Rough semi-improved grassland on disturbed ground dominated by *Arrhenatherum elatius* with *Dactylis glomerata*; *Holcus lanatus*; *Lolium perenne*; *Poa trivialis*; *Elytrigia repens* and *Festuca rubra*. Forbs include frequent creeping cinquefoil; yarrow; ribwort plantain; hairy tare and occasional *Equisetum arvense*; horse radish; ragwort; teasel; black medick; white campion and mugwort.

15.) Poor semi-improved grassland with much *Lolium perenne* as well as *Poa pratensis*; *Festuca rubra*; *Dactylis glomerata*; *Elytrigia repens* and occasional *Bromus ramosus* and *Agrostis tenuis*. Forbs include frequent dandelion; autumn hawkbit; yarrow; dove's-foot crane's-bill and occasional poppy; ox-eye daisy and black knapweed.

16.) Area of dumped topsoil and building debris colonised by *Arrhenatherum elatius*; *Elytrigia repens*; wall lettuce; ragwort; nettle and creeping thistle.

17.) Verge with frequent *Arrhenatherum elatius*; *Dactylis glomerata*; *Poa pratensis* and occasional *Poa trivialis* and *Festuca rubra*. Forbs include frequent ox-eye daisy and yarrow; locally frequent black knapweed and *Equisetum arvense* with occasional meadow crane's-bill and bird's-foot trefoil.

18.) Poor semi-improved on old flood meadow with scattered hawthorn scrub and horse chestnut comprised of frequent *Lolium perenne*; *Dactylis glomerata*; *Arrhenatherum elatius*; *Poa pratensis*; creeping buttercup; red clover and occasional *Festuca rubra* and scattered broad-leaved and curled dock; nettle and cow parsley.

19.) Poor semi-improved on old flood meadow with scattered hawthorn scrub and horse chestnut comprised of frequent *Lolium perenne*; *Dactylis glomerata*; *Arrhenatherum elatius*; *Poa pratensis*; creeping buttercup; red clover and occasional *Festuca rubra* and scattered broad-leaved and curled dock; nettle and cow parsley. An uncut or grazed area near the hedgerow contains tall herbs with great willowherb and nipplewort.

20.) Neglected flood meadow now a mosaic of rough grassland dominated by *Arrhenatherum elatius* with *Dactylis glomerata*; *Holcus lanatus*; *Poa trivialis* and occasional *Cynosurus cristatus* and tall herbs such as nettle; teasel; marsh and creeping thistle; hogweed; cow parsley and rosebay willowherb. Occasional greater plantain; lucerne; red clover; creeping buttercup and *Equisetum arvense* can also be found.

21.) River Dene lined by scattered to dense elder; hawthorn and blackthorn scrub with great willowherb; nettle; rosebay willowherb. Emergent vegetation includes *Phalaris arundinacea*; bur- reed; purple loosestrife and gipsywort.

Within the river there are foals water-cress; arrowhead; water forget-me-not and occasional brooklime. Below the weir there is more vegetational cover as well as sidebars and riffles.

22.) An area of tall herbs including frequent nettle; rosebay willowherb; mugwort; hemlock and ragwort with *Arrhenatherum elatius* and *Dactylis glomerata* and occasional *Deschampsia cespitosa*.

23.) Flood channel mostly overgrown by *Glyceria fluitans* with foals water-cress; great willowherb and occasional brooklime and gipsywort.

24.) Visited on 21/07/09 by MF. Central roundabout planted with cherry, silver birch, hazel, and hawthorn. Grassland is good semi-improved with field scabious and yarrow dominant species. Also black meddock, ox-eye daisy, meadow crane's-bill, cat's-ear, common knapweed.

25.) Visited on 21/07/09 by MF. Remaining area of field previously recorded as semi-improved neutral grassland. Remainder of field has been used as business park. Area is a deep hollow with steep sides planted recently with broad-leaved species. Site largely tall grasses and Oxford ragwort.

SP25t

1.) Charlecote Park. Consists of predominantly improved grassland with abundant *Lolium perenne* and frequent *Cynosurus cristatus*; *Poa pratensis* and occasional *Agrostis tenuis*. There are many scattered shade trees which are a mix of oak; ash; poplar; horse chestnut; sweet chestnut; lime; beech as well as many exotics.

2.) Old flood meadow and orchard now dominated by coarse grasses such as *Arrhenatherum elatius*; *Dactylis glomerata* and *Holcus lanatus* with frequent *Poa trivialis* and occasional patches of *Festuca rubra*; *Cynosurus cristatus*; *Phleum pratense* and *Lolium perenne*. There are areas hogweed; cow parsley; broad-leaved dock with occasional ragwort; marsh and creeping thistle; teasel and near the river; nettle and burdock. Hawthorn and elder scrub is beginning to colonise and there are several old apple trees. Creeping buttercup and creeping cinquefoil are the most abundant forbs with locally frequent self-heal and black medick. Lady's bedstraw; meadow vetchling and *Carex hirta* are occasional and scattered.

3.) A large pond within the loop of a meander of the River Dene with abundant Canadian pondweed and frequent *Typha latifolia* and branched bur-reed. The banks and small islands have frequent great willowherb and purple loosestrife and occasional meadowsweet. The pond contains several mature red-eared terrapins

(six seen; nine reported by owner) which may account for the apparent lack of any amphibian life. Common blue and blue-tailed damselflies and brown hawker dragonfly were also seen during the survey.

4.) River Dene. The river has been heavily re-sectioned at this point and is lined by patchy hawthorn; elder and bramble scrub with occasional ash. The bankside contains frequent great willowherb; meadowsweet; hedge bindweed and occasional purple loosestrife. There is very little aquatic vegetation other than a thick algal bloom.

5.) Set aside land adjacent to the River Dene now dominated by *Arrhenatherum elatius* with frequent *Dactylis glomerata*; *Elytrigia repens*; *Poa pratensis* and occasional *Lolium perenne*. There are scattered tall herbs such as ragwort; broad-leaved dock; creeping and marsh thistle and occasional teasel.

6.) Poor semi-improved meadow; recently cut at the time of survey. No direct access but from the other side of the River Dene it appears to contain frequent red and white clover; daisy and self-heal.

7.) Charlecote Churchyard. Semi improved grassland with some areas cut and others left to grow and seed. The uncut sections are dominated by *Arrhenatherum elatius* with *Dactylis glomerata*; *Holcus lanatus*; *Poa trivialis* and occasional *Agrostis tenuis* and *Festuca rubra*. Forbs include frequent autumn hawkbit; lady's bedstraw; ribwort plantain; pignut and occasional germander speedwell; ox-eye daisy and burnet saxifrage. Where the grass is more regularly mown there are frequent cat's-ear and rough hawkbit and patches of mouse-ear hawkweed alongside the walls of the church.

8.) An artificial reservoir surrounded by a thin strip of semi-improved grassland with frequent *Festuca rubra*; *Dactylis glomerata*; *Arrhenatherum elatius* and occasional *Poa trivialis*; *Poa pratensis* and *Lolium perenne*. Forbs include frequent ribwort plantain and occasional red clover; creeping cinquefoil and cat's-ear with scattered creeping; marsh; and occasional spear thistle. The reservoir has no aquatic or emergent vegetation. The whole is surrounded by a conifer hedgerow and plantation.

9.) A shallow lake with no aquatic vegetation other than blanket weed; deer grazed up to the waters edge.

10.) Young broad-leaved plantation mostly of oak with occasional cherry; hazel; hawthorn and field maple over rough grassland dominated by *Arrhenatherum elatius*; *Dactylis glomerata* and *Holcus lanatus* with occasional creeping thistle; broad-leaved dock and mugwort.

11.) Large lake on the site of an old gravel pit; surrounded by willow scrub. There is no apparent aquatic vegetation but marginal and emergent vegetation includes frequent *Typha latifolia*; *Phalaris arundinacea*; *Juncus effusus* and occasional yellow flag iris.

12.) Area of goat and crack willow scrub over *Arrhenatherum elatius* and *Dactylis glomerata* dominated grassland with scattered tall herbs such as broad-leaved dock; mugwort; teasel; burdock and ragwort.

13.) Rough grassland dominated by *Arrhenatherum elatius* and *Dactylis glomerata* with occasional *Festuca rubra* and lady's bedstraw; scattered willow; hawthorn and bramble scrub and tall herbs such as nettle; hogweed; hemlock and rosebay willowherb. The stream to the east contains frequent *Phalaris arundinacea*; *Glyceria fluitans* and great willowherb.

14.) Lake with little aquatic vegetation other than patchy Canadian pondweed in the deeper sections. *Typha latifolia*; *Juncus effusus* and yellow flag dominate the edges

with occasional gipsywort. The steep banks are covered by tall herbs; predominantly nettle with occasional hemlock and meadowsweet and scattered bramble; willow and elder scrub. There are two small islands; one of which is covered in willow scrub and the other with nettle; rosebay willowherb and bramble; willow and elder scrub. The site is good for dragonflies with common blue and blue-tailed damsel fly; common darter and brown hawk.

15.) A small copse of mature oak over elder and hawthorn understorey and a ground flora dominated by nettles.

16.) Rough semi-improved grassland; possibly old set-aside; dominated by *Arrhenatherum elatius* with *Dactylis glomerata*; *Holcus lanatus*; *Lolium perenne* and *Agrostis tenuis*. Forbs are scarce including hairy tare; creeping buttercup and white clover. There are scattered ragwort; creeping and spear thistle and broad-leaved dock.

17.) Access denied. Informed by landowner that the site is now a conifer plantation.

18.) Species rich road verge with frequent *Dactylis glomerata*; *Arrhenatherum elatius*; *Poa trivialis* and occasional *Lolium perenne*; *Cynosurus cristatus* and *Holcus lanatus*. There is abundant black knapweed and locally frequent ox-eye daisy. Black medick; bird's-foot trefoil and occasional goat's-beard; field scabious and lady's bedstraw. Visited on 17/07/09 by MF. Updated. East side of road, now poor semi-improved grassland (yarrow, common knapweed, musk mallow, smooth tare, ribwort plantain, greater plantain, meadow crane's-bill, common vetch. West side remains semi-improved, with smooth tare, self-heal, yarrow, ox-eye daisy, creeping bent, lady's bedstraw, red clover, lesser trefoil, curled dock, ribwort plantain, grass vetchling, field horsetail, bird's-foot-trefoil, cat's-ear, meadow crane's-bill, musk mallow, Oxford ragwort, hedge parsley, black meddick, common mallow, hogweed, field bindweed, burdock, creeping buttercup, goat's-beard.

SP25x

1.) Pond surrounded by *Typha latifolia* and great willowherb; with occasional water plantain. The banks are covered by marsh and creeping thistle and nettle.

2.) Moreton Wood. Mixed plantation of oak with beech; ash; fir; pine and cedar and an uneven understorey of hawthorn; occasional derelict hazel coppice; elder; blackthorn and field maple. There are also patches of snowberry and rhododendron. The ground flora is dominated in parts by bramble with dog mercury and occasional *Brachypodium sylvaticum*; dog violet; *Bromus ramosus*; *Deschampsia cespitosa*; *Carex sylvatica* and perforate St. John's wort.

3.) Visited on 17/07/09 by MF. Poor semi-improved meadow: red clover, scented mayweed, sun spurge.

4.) Visited on 20/07/09 by MF. Pond created by Environment Agency in 1960s to irrigate nearby fields. Crack willow with some cleared areas possibly used by fishermen. Well established reed bends with common reed. Reed warblers seen.

SP25y

1.) An area of mature mixed plantation either side of Thelsford Brooke; consisting of oak and ash with beech; pine and occasional sycamore; willow and horse chestnut. The understorey is dominated by hawthorn and elder over a ground flora of nettles.

2.) Road verge with frequent *Arrhenatherum elatius*; *Dactylis glomerata*; *Poa trivialis* and occasional *Festuca rubra*. Forbs are quite varied including frequent ribwort plantain; red clover; hedge and field bindweed; cat's-ear; black knapweed and occasional agronomy; mallow; bird's-foot trefoil; black medick; meadow vetchling

- and lady's bedstraw. The hedges are dominated by hawthorn to the south and elm to the north; both with occasional hazel; elder; field maple and the odd mature oak.
- 3.) Large garden pond dominated by duckweed; with occasional *Typha latifolia*.
 - 4.) Small area of rough semi-improved grassland dominated by *Arrhenatherum elatius* with *Dactylis glomerata*; *Holcus lanatus* and tall herbs such as creeping and marsh thistle; hogweed and mugwort.
 - 5.) Mature mixed plantation of yew; horse chestnut; ash and occasional cedar and pine. The understorey is patchy with occasional holly over nettles and bare ground.
 - 6.) Newbold Pacey churchyard. Some areas appear to be mown regularly while others have been left. The mown areas contain frequent *Poa* spp and *Festuca rubra* with self-heal; ribwort plantain; occasional hoary plantain; rough hawkbit and daisy while in uncut areas *Arrhenatherum elatius*; *Dactylis glomerata* and *Holcus lanatus* dominate with frequent creeping buttercup; burnet saxifrage and occasional cowslip; black knapweed and bird's-foot trefoil.
 - 7.) Small walled area of tall ruderal; dominated by nettle and rosebay willowherb; and elder; hazel and bramble scrub.
 - 8.) Roadside strip of mixed plantation of common lime; beech and ash with sycamore and cedar over and elder and hawthorn understorey which is dense around the margins. The ground flora is largely dominated by nettles with occasional hedge woundwort and wood avens.
 - 9.) Roadside strip of mixed plantation of common lime; beech and ash with sycamore and cedar over and elder and hawthorn understorey with dense snowberry around the margins. The ground flora is largely dominated by nettles with occasional hedge woundwort and wood avens.
 - 10.) Young broad-leaved plantation on the site of a previously felled plantation; of oak and poplar with occasional rowan and sycamore with regenerating hazel and ash over nettle; rosebay willowherb and occasional broad-leaved dock.
 - 11.) Mature mixed plantation of ash and oak with cedar; pine and occasional horse chestnut; beech and sycamore over an understorey of hawthorn and elder. The ground flora is dominated by bramble with frequent nettle; *Poa trivialis* and occasional wood avens and ground ivy.
 - 12.) Small pond overgrown by dense hawthorn and blackthorn scrub; occasional willow and oak. There is no aquatic or emergent vegetation.
 - 13.) Thelsford Brooke is sporadically lined by hawthorn; elder and willow scrub; dense in places; with occasional ash and field maple. In less shaded sections there are abundant nettle and Russian comfrey along the banks and watercress within.
 - 14.) Visited in October 2007 by Middlemarch Environmental. Mammal push through in hedge.
 - 15.) Visited in October 2007 by Middlemarch Environmental. Japanese knotweed inroad verge.
 - 16.) Visited in October 2007 by Middlemarch Environmental. Mammal push through in hedge.
 - 17.) Visited in October 2007 by Middlemarch Environmental. Fallen oak tree
 - 18.) Visited in October 2007 by Middlemarch Environmental. Standing dead wood.
 - 19.) Visited in October 2007 by Middlemarch Environmental. Mature ash and oak trees.
 - 20.) Visited in October 2007 by Middlemarch Environmental. Wet ditch with area of common reed.