



# Scraptoft North

## Botanical Survey and Assessment

**Draft Report**  
July 2017

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**Client:** Parker Strategic Land Ltd  
3 Bank Court,  
Weldon Road  
Loughborough  
Leics LE11 5RF

**Author:** Andrew Cross BSc (Hons) MSc MCIEEM

**Report Prepared for Issue by:** .....  
Andrew Cross BSc (Hons) MSc MCIEEM

**Report Approved for Issue by:** .....  
Ben Kite BSc (Hons) MSc CEcol MCIEEM PIEMA

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Ecological Planning & Research Ltd  
The Barn, Micheldever Station, Winchester, Hampshire SO21 3AR  
Tel: 01962 794720 Fax: 01962 794721 email: [info@epr.uk.com](mailto:info@epr.uk.com) [www.epr.uk.com](http://www.epr.uk.com)

# Scraptoft North

## Botanical Survey and Assessment

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# Scraptoft North

## Botanical Survey and Assessment

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### 1 INTRODUCTION

#### **Brief**

1.1 Ecological Planning & Research Limited (EPR) were commissioned by Parker Strategic Land Ltd to carry out a botanical survey of the land at Scraptoft North /Field west of Beeby Lane. The aims of the survey were to:

- Investigate the justification for the proposed LWS designation (i.e. whether the site meets the LWS criteria);
- Assess the actual ecological value of the habitats present (i.e. regardless of whether or not the site meets the LWS criteria); and
- If the habitats on site either do meet the LWS criteria or are of significant ecological value, advise on whether it might be possible to deliver adequate compensation for their loss, should development proceed

#### **Location of the Survey**

1.2 The site surveyed is on the northern side of Scraptoft village, Leicestershire. The site is a field to the west of Beeby Lane, south of Scraptoft Golf Course and east of Hamilton Lane. The OS grid reference for the approximate centre of the field is SK648060.

#### **Background Information**

1.3 The following reports have been referred to for background information:

- Lloyd Bore. 2017. Report to provide information in relation to Scraptoft LNR. REF: 4181\_RP\_001. 10/04/2017; and
- Timms, S and Headley, K. 2017. Report on Scraptoft including site visit information from 18 May 2017.

## 2 METHODOLOGY

### Introduction

2.1 The work in this report draws on both desk research and field work.

### Desk Research Resources

#### Overview

2.2 Desk research to inform the description and evaluation of the grassland resource carried out by EPR covered the following:

- Topography, geology, soils and hydrology;
- Landscape history; and
- Biogeographical context.

#### Topography, geology, soils and hydrology

2.3 Information on topography, geology, soils and hydrology is drawn from one or more of the following main sources:

- the British Geological Survey (BGS);
- the Soil Survey of England and Wales (SSEW); and
- the Environment Agency.

#### Landscape history

2.4 Research on the landscape/ecological history of the woodlands in this area is based primarily on examining old maps. The following maps were examined for each woodland in this report:

- 1st Series 6" to the Mile Ordnance Survey Map (c. 1880); and
- Land Utilisation Survey of Britain c.1937.

#### Biogeographical context

2.5 The following documents/sources have been referred to for guidance in interpreting the ecological context of the woodlands covered in this report:

- Natural England's National Character Area 93 High Leicestershire; and
- Leicestershire Biodiversity Action Plan.

### **Field Work**

- 2.6 Field work was carried out to investigate the flora and vegetation of the field. The site was visited by Andrew Cross, EPR's Senior Botanist, on Thursday 6 July 2017.

### Habitat

- 2.7 The site was sub-divided into habitat parcels (based on the surveyor's interpretation of LiDAR imagery and field data).

### Flora

- 2.8 The aim of the survey for flora was to find species of conservation importance and habitat quality indicators. Species on the following lists were recorded when found:

- Species listed on the Red Lists for Vascular Plants for Great Britain and England;
- Nationally Rare or Nationally Scarce Plants;
- Species listed on Section 41 of the NERC Act;
- Species listed on the LWS Grassland indicator list.

### Vegetation

- 2.9 Subjective assessment of the vegetation types was undertaken, to establish whether plant communities found were referable to known community types based on the National Vegetation Classification (NVC) Rodwell (1991-2000).

### **Nomenclature**

- 2.10 Nomenclature for vascular plants follows Stace, 2010.

### **Interpretation of Grassland**

#### Local Wildlife Site

- 2.11 The Local Wildlife Site Criteria 4<sup>th</sup> edition 2011 for Leicestershire were referred to for site interpretation.

#### Conservation Status of Grassland

- 2.12 The conservation status of a grassland is based on its condition – favourable/unfavourable - and the future trend of that condition – maintained/improving/declining.

### 3. RESULTS AND LWS EVALUATION

#### Results: Desk Based Research

##### Topography, geology, soils and hydrology

- 3.1 The field is on the edge of a plateau on ground sloping to the south. The southern edge of the site is an unnamed watercourse that drains westwards to the Soar.
- 3.2 The bedrock geology is the Lias Formation – a Mudstone – that is, for most of the site, overlain by the superficial deposit of the Oadby Member, a type of boulder clay. The Scraftoft Brook valley in the southern part of the site has a small area of head deposit with a still smaller, inset area of alluvium within the head.
- 3.3 The soils of the boulder clay/till are largely poorly-drained clayey soils with the head and alluvial soils more freely-draining. The natural soils of the site will have been anciently modified by the development of the ridge and furrow and, more recently, by the infrastructure and operation of the WWII camp. A narrow strip of soils on the southern edge of the site along the watercourse probably never were ridge and furrow and are could be the oldest profiles on site, though note that this area may also have been modified by the WWII infrastructure.

##### Landscape history

- 3.4 Early editions of the 6 inch OS map shows survey area is part of a then larger field. The western and southern boundaries of the survey area are the oldest and may date back to when the area was enclosed. The northern boundary dates from c. 1900. The eastern boundary is probably even younger. These maps show a spring in the very south/central part of the field (the spring may still be present – there is wetland vegetation close to the location but it was dry at the time of the EPR survey). The pond in the southwest of the field is also shown on the 1884 OS map.
- 3.5 LiDAR imagery obtained from the Environment Agency (see **Annex 1**) shows that the site is a mosaic of ridge and furrow structures intermixed with areas used for the construction of a WWII camp. These latter areas include the footings for buildings, underground drainage and, probably, made ground.
- 3.6 The ridge and furrow landscape here is one created through historic ploughing between medieval/early modern/Napoleonic times. There appears to be different sizes of ridge and furrow; a pattern that perhaps is a result of different eras of ploughing (for example narrow, straight ridge and furrow is associated with the Napoleonic era whilst wider curving structures are older). The ridge and furrow in the northern part of the site appears to be the former: straight, narrow ridges. Areas to the south of the site appear to have larger ridge and furrow structures.
- 3.7 Specific times as to when pastures were established vary and range from, though not exclusively, late medieval/early modern period though to the Victorian period. The significance of this is that ridge and furrow has undisturbed soils potentially of considerable

age (for example if last ploughed in the early modern period) of which there is a finite source that is decreasing.

- 3.8 The Land Utilisation Survey of c. 1935 shows the survey area to have been part of a once extensive area of permanent grassland/pasture all around Scruptoft. Most of this has now gone.

**Fig 3.1: Extract from Land Utilisation Survey from mid 1930s showing how widespread permanent pasture (green colour on map) was in the Scruptoft area.**



- 3.9 The site – and the golf course extension on made ground to the north east – was used as a camp in the second world war (WWII). This camp was extensive, with built structures, drainage etc. It's construction date is unknown. A lot of the ridge and furrow was destroyed for the construction of the camp (see LiDAR image).
- 3.10 The camp – then known as Camp March Hare - was the base for the 325<sup>th</sup> GIR of the 82<sup>nd</sup> Airborne Division from c.Feb 1944 to June 1944. After that the camp was then used as a prisoner of war camp/repatriation site. The POW camp could hold upto 2000 people.
- 3.11 Historic Aerial photographs in **Annex 2** show the site and the extent of the WWII camp. The eastern side of the camp appears to be the camp administrative buildings, entrance and so on.
- 3.12 No information was found regarding the decommissioning of the camp and when it was demolished. It is difficult to see any other use for the site other than as grazing land (the footings of the buildings would prevent any ploughing). Reports for the LNR information in 2002/2003 state that the site has probably been grazed by cattle since the 1950s. Information from the Timms report indicates that the grazing has varied over recent years.



### Biogeographical Context

#### National Character Area 93 High Leicestershire

- 3.13 The National Character Area 93 states that ridge and furrow patterns give a sense of history ...*“reflecting the workings of open field townships”*.

### **Results: Field Work**

#### Times of EPR Surveys and Personnel

- 3.14 Andrew Cross of EPR, an experienced botanist, surveyed the site on 6<sup>th</sup> July 2017.

#### Constraints

- 3.15 There were no access constraints. The site was grazed by horses but not excessively so for most of the site. Spring-flowering species may no longer have been visible/present but otherwise this survey of this neutral grassland is in the correct survey season.

#### Habitats

- 3.16 Fig 3.2 below shows the site to be a grassland with linear blocks of scrub grading into scattered scrub in the north part of the site and the south east.

**Fig 3.2: Aerial Image of Site**



- 3.17 **Map 1** shows the site sub-divided into parcels with a description of each parcel set out below in **Annex 3**.

### Flora

- 3.18 EPR's survey targeted the flora of the grasslands. Species from the scrub blocks within the site were recorded, though the list from this habitat is not comprehensive. No floristic data was recorded from the boundary habitats.
- 3.19 73 species were recorded from the field, mostly from the grassland, with some from a seasonal, old pond in the south west corner.
- 3.20 No Nationally Rare, Scarce or Red List (Threatened in Great Britain or England – JNCC 2017) species were recorded. No NERC Act S41 plant species were recorded.
- 3.21 EPR recorded 9 Leicestershire Grassland Indicator Species on the Leicester SNCI Selection Guidelines list F and a total of 12 species from the combined lists. See **Annex 4** for the list of these species.
- 3.22 Ragwort *Senecio jacobaea* is abundant to locally dominant in the grassland areas, with thistles, docks and nettles locally frequent. Bramble scrub is well established around the edges of the scrub and encroaching onto the grassland areas. All are indicative of inappropriate management in conjunction with the past disturbance to the site.

### Vegetation

- 3.23 The eastern half of the site supports a herb-poor permanent pasture with locally abundant ruderal species including Ragwort, Nettles and Docks (see Photo in **Annex 5**). This part of the site was, for the most part, the administrative part of the camp.
- 3.24 The linear blocks of scrub on the western part of the site are located over the former camp's accommodation buildings. The scattered scrub an expansion of this habitat over former grasslands.
- 3.25 The grassland vegetation in between the blocks of scrub on the western half of the site is a mosaic of patches of herb-poor pasture grading locally into more herb-rich stands. The mosaic represents a transition between the NVC grassland types MG5 and MG6.
- 3.26 The MG5 areas are best defined by the presence of Bird-foot trefoil *Lotus corniculatus* (see Photo in **Annex 5**). This species is very patchy and is localised to areas in the western and southern part of the site. It tends to be associated with the stronger ridge and furrow.
- 3.27 Most of the pastures are herb-poor pasture characterised by Perennial Rye-grass, White Clover and Creeping Buttercup frequent (see Photo in **Annex 5**). This type of grassland – a semi-improved pasture – can locally have patches of Lady's Bedstraw as well as the grasses Meadow Barley and occasional Yellow Oat-grass, these latter three species are also present in the MG5 vegetation.
- 3.28 The grasslands on the western half of the site have locally abundant Ragwort.

#### Other

- 3.29 There is much evidence of the former camp on site, including footings of buildings and drainage.
- 3.30 One Wildlife and Countryside Act 1981 (as amended) Schedule 9 species was recorded on the southern edge of the site: Giant Hogweed *Heracleum mantegazzianum*. Although of little relevance to this assessment, personnel working on site should be made aware of the presence of this plant and to avoid disturbing it without appropriate training and Personal Protective Equipment (PPE), since the sap contains a photoreactive chemical that can cause nasty skin burns in the presence of sunlight.
- 3.31 There is encroachment onto the site from properties to the south of the site.

### **Conservation Status of Grassland**

#### Condition

- 3.32 The grasslands are managed as permanent pastures. At present they are grazed by horses though in the past management has included cattle grazing. Whilst the grazing is essential for the survival of a grassland, the following tell that the grasslands are in unfavourable condition;
- Areas of rank grassland where scrub is expanding/invading;
  - Ragwort is locally abundant to dominant;
  - Docks, thistles and nettles are locally prominent; and
  - Species characteristic of herb-rich grasslands are very patchy.
- 3.33 The condition of the grassland is Unfavourable.

#### Trend

- 3.34 The current grazing management (grazing, weed and scrub control) is not appropriate to maintain the grassland or bring it back into favourable condition and so the unfavourable condition of the grassland is between maintained and declining.

## 4 INTERPRETATION AND GUIDANCE

### Local Wildlife Status Criteria

- 4.1 The LCC LWS Grassland Selection Criteria have two categories: primary and secondary criteria.

#### LWS Primary criteria

***Mesotrophic grasslands** should be at least 2500m<sup>2</sup> or 200m of linear habitat in extent in which at least 7 species from list F should be Occasional, Frequent, Abundant or Dominant or at least 10 species from grassland list F should be present.”*

*[LWS Criteria]*

- 4.2 Based on EPR data, the site does not meet the Primary Criteria: EPR recorded 9 species from List F, most of which were rare. If, however, data from Timms 2017 is also included, the total number of List F species would be 11 thereby just exceeding the threshold for consideration.

#### LWS Secondary criteria

*The site is at least 2500m<sup>2</sup> in extent, in which at least 8 species from lists F, G, H and J combined should be present.”*

- 4.3 Based on EPR data, the site does meet the Secondary Criteria: EPR recorded a combined total of 12 species.
- 4.4 In considering the primary and secondary criteria above, the following must be taken into account:
- Most of the species on the list are very rare on the site; and
  - The species are, for most of the site, not intermixed in a sward (which would be characteristic of old grasslands) but instead are largely in individual patches. This latter distribution pattern is characteristic of grasslands that have been disturbed or young grasslands.

### Interpretation of Historic Landscape

- 4.5 A field that was once a mixture of ridge and furrow was used as a military base in WWII. The construction and operation of that base led to the removal/damage to much of the ridge and furrow. Ridge and furrow surviving mostly in western part of site but even there has been extensively damaged by the construction of the camp.

### Interpretation of Grassland

#### Semi-improved Grassland

- 4.6 The grassland is a semi-improved, largely herb-poor pasture that has localised patches of flora characteristic of less improved grasslands scattered about. The presence of locally frequent Perennial Rye grass, White Clover and Creeping Buttercup and the rarity of species such as Common Knapweed indicate that the grassland was improved to some extent, though not drastically, in the past.

- 4.7 There is no evidence that this is an unimproved grassland because: it lacks any species characteristic of old, unimproved grasslands, for example Devil's Bit Scabious, Betony, Eyebrights, etc).

#### Indicator Species Abundance and Distribution

- 4.8 Whilst the species count does, just, reach LWS threshold, the abundance and distribution of grassland indicator species is important. Of the 9 mesotrophic grassland indicator species recorded by EPR, 2 were very rare on the site occurring only as a few individuals with a very restricted distribution in a 15ha site: a few individuals of Glaucous Sedge on one bank and Common Knapweed in a couple of places on the southern side of the site.
- 4.9 Of the Mixed List indicators, 4 are very rare occurring as a few individuals with a very restricted distribution across the site: Glaucous Sedge on one bank, Common Knapweed in a couple of places on the southern side of the site; Toad Rush and Jointed Rush in the seasonal pond and a few plants of the latter species on the southern edge of the site.
- 4.10 The only area of the 15ha site that has all the indicator species is the southern side.

#### LWS Criteria

- 4.11 The threshold for considering grasslands for LWS status (see LWS 4<sup>th</sup> edition 2011 pages 16-19) in Leicestershire is set low. The reason for this is set out in the Leicestershire BAP, which states:

##### *"Local Wildlife Site criteria*

*The Local Wildlife Site grassland criteria have been set to include fairly species-rich semi-improved grasslands. This is because of the known decline in the extent and quality of species-rich grasslands in our area, which in some areas is extremely severe – many Parishes now have negligible amounts of conservation value grassland.*

*"Many parts of Leicestershire and Rutland are now largely arable, and much remaining grassland has been heavily improved for pasture or silage. As an example, grassland can be designated as a LWS if it contains 7 indicator species at an occurrence of Occasional or more. These indicator species may be common grassland species such as Meadow Vetchling, Sorrel, Meadow Buttercup, Field Woodrush, Pignut, Birdsfoot Trefoil, Red Clover, Great Burnet and Meadowsweet.*

*It is disturbing that many parts of Leicestershire and Rutland lack LWS-standard grassland exhibiting even this common range of species"*

### **Implications for Development**

#### Overview

- 4.12 The eastern half of the site is composed of herb-poor pasture with locally abundant ruderal species and this is of limited conservation interest. It does however have a role in making the field as a whole a viable grazing unit.

- 4.13 The southern edge of the site is the most diverse floristically and has good patches of herb-rich grassland on the ridge and furrow. The grasslands in the western part of the site become more diverse further to the west though this is offset by the increasing development of scrub from the west and the linear blocks of scrub.

#### Loss of Habitat and Compensation Potential

- 4.14 The eastern part of site is most damaged and the least diverse, and thus if development is proposed, this would be the first area to consider. This eastern area is defined as polygons 1, 2, 3 and 12 shown on **Map 1**. Note that the loss of this area will probably make the retained areas unviable for grazing unless a grazier were artificially supported or encouraged by development funds as part of a mitigation proposal. Loss of grazing on the surviving herb-rich grassland areas would in itself impact on those areas.
- 4.15 Compensation for the loss of the habitats in the eastern areas should be a mixture of positively managing areas of retained grassland habitat to make bring them into 'favourable maintained' condition, and also creating and restoring similar species-rich grassland habitat elsewhere. A buffer along the watercourse should be created.
- 4.16 The southern part of the site should be avoided as this is the area of highest biodiversity. This area is defined as polygons 4, 5 and 6, and the buffer along the watercourse to the east of these polygons – as shown on **Map 1**.
- 4.17 It is important to note that the retention and future enhancement of those more biodiverse areas of grassland on surviving ridge and furrow would be an essential component of an overall mitigation and enhancement strategy for development at this site. This is for two principle reasons:
- Firstly, whilst even those areas of herb-rich grassland on surviving ridge and furrow have clearly been degraded by more recent management, their overall biodiversity complement derives some of its value from attributes that cannot readily be recreated elsewhere (i.e. those derived from the ancient and undisturbed (in recent times) nature of the grassland and underlying soil profile that exists on older ridge and furrow); and
  - Secondly, biodiversity related planning policy, including Section 11 Paragraph 118 of the National Planning Policy Framework (NPPF) and Harborough District Local Development Framework Core Strategy 2006 - 2028 Adopted 2011 require that a hierarchical approach is taken towards mitigating the negative effects of development upon features of biodiversity value. In short, this requires that significant harm to biodiversity is first avoided where possible, then mitigated (i.e. reduced) then, as a last resort, compensated for.
- 4.18 Developing the grassland areas in the western part of the site in areas 8 to 14 should be avoided if possible. Of this block, the grasslands of parcel 14 are the most diverse with 8 then 10 less so. In avoiding these grasslands, it would mean that the scrub in parcels 7, 9, 11, 13 and 15 would be retained.
- 4.19 If, however, one or more of grassland parcels in this western block be developed suitable compensation would be needed. In this case, ridge and furrow cannot readily be created

(though it is not impossible) and it would probably be better in the first instance to restore existing ridge and furrow grassland in an appropriate location. If that is not possible, new grasslands should be created over some sort of ridge and furrow type structure. Any scrub would also have to be compensated for:

#### Land Adjacent to the Site

- 4.20 Map 1 shows part of the golf course as Parcel 16. This parcel is almost certainly made ground (material from the demolished camp?) and supports a herb poor grassland. Whilst outside of the site, this area contains little ecological interest or old features such as ridge and furrow, and consequently would have less botanical impacts were it developed in comparison to the ridge and furrow areas in the site itself.
- 4.21 The main part of the golf course, which was not surveyed for this report, does have a substantial amount of ridge and furrow grassland in it as can be seen on the LiDAR imagery in Annex 1.

#### **Summary**

- 4.22 In summary, our recommendations are:
- For any development to be focused on those habitat polygons that are of lower biodiversity interest (1, 2, 3 and 12);
  - For the more biodiverse grassland polygons and associated habitats (parcels 4, 5 and 6) to be retained in situ insofar as is possible, within a compartment that is sufficiently large in size to enable continued conservation grazing (probably supported in the long term by development funds); and
  - For the loss of any grassland/scrub areas of intermediate biodiversity value (parcels 7 to 15) to be compensated through the restoration and/or creation of at least equal areas of new species-rich grassland elsewhere.
- 4.23 For the latter point this would include seeking to either to restore existing species-poor grasslands on ridge and furrow elsewhere in the nearby area or creating a new grassland on newly dug structures akin to ridge and furrow.
- 4.24 Creation of such a compensation area would probably involve the following principal steps:
- Preparation of the grassland creation/receptor area – this will depend on the existing vegetation, but would involve the removal of any arable crops, or, if grassland, harrowing to create some bare ground (taking care not to damage any existing features such as ridge and furrow);
  - The enrichment of the grassland creation/receptor area. This would be partly through the introduction of appropriate wildflower seed mixes, or potentially the translocation of material from the existing grasslands at Scraftoft through either wildflower seed-rich green hay or macroturf translocation. If a suitable nearby unimproved wildflower meadow site could be located, this could also act as a donor of diversity if it were possible to collect seed-rich green hay from this site for use in the receptor site; and
  - The long-term positive management of the receptor site.
- 4.25 Another (but perhaps more remote) possibility, would be for the development to secure the long-term protection and enhancement of a similar off-site species-rich grassland on surviving ridge and furrow, and fund the long-term positive management of this area (LiDAR imagery in Annex 1 shows the presence of ridge and furrow structures on the local area and

there are known areas near the medieval village of Hamilton though EPR has no data on the quality of any of these grasslands). The adequacy of any such option would need to be assessed on a case-by-case basis looking at the existing value of the grassland, the likely trend of its conservation status in the absence of intervention, and its potential for restoration. In theory however, securing the long-term protection and enhancement of an off-site grassland of conservation importance that would otherwise be likely to be lost could contribute towards the overall solution.



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# **Scraptoft North**

## **Botanical Survey and Assessment**

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### **Maps**

**Map 1      Habitat Parcels**

MAP 1 Habitat Parcels

KEY

 Habitat parcels



SCALE: 1:2,250 at A3



**Ecological Planning & Research**



CLIENT: Parker Strategic Land Ltd

PROJECT: Scraptoft North

DATE: July 2017

CH0018

**Annex 1**  
LiDAR Imagery

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**Fig A3.1: LIDAR image of survey area and surrounding landscape. Red Circle encloses the Site and the Golf Course extension.**

Fig A3.2: LIDAR image of survey area.



## **Annex 2**

### Historic Aerial Photographs

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View of Scraftoft Camp from the south

NOTE: THE ABOVE IMAGE IS NOT FOR REPRODUCTION. THE IMAGE IS COPYRIGHT HISTORIC ENGLAND.

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View of Scraftoft Camp from the south

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**Annex 3**  
Habitat Parcel Descriptions

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**Table A1.1: Descriptions of habitat parcels on Map 1.**

Parcel Number	Area of Parcel m2	Description
1	35227.40	No ridge and furrow. Main area of camp here. Possible made ground in part of this area though would need ground investigations to confirm if present and, if so, the extent. Herb-poor pasture
2	11018.28	Ridge and Furrow. Damaged (see Area 3 for example). Herb-poor grassland better diversity along southern edge close to watercourse.
3	1897.45	Levelled ground for camp buildings. Herb-poor pasture.
4	3684.63	4, 5 and 6 are the most diverse part of the site and include herb rich grassland, wet grassland and the ephemeral pond
5	761.07	Seasonal Pond. Grazed.
6	9750.17	Herb-poor/Herb-rich grassland mosaic on relict ridge and furrow that has been locally damaged by camp infrastructure.
7	12432.25	Scrub over former camp accommodation areas. Footings present in scrub.
8	16169.65	Ridge and Furrow. Better quality grassland to the west decreasing eastwards.
9	9037.76	Scrub over former camp accommodation areas. Footings present in scrub.
10	8003.73	Ridge and furrow absent. Better quality grassland to the west decreasing eastwards
11	1622.41	Unknown
12	7484.48	Mostly scrub and herb-poor pasture with footings from camp in central and eastern part.
13	5747.38	Scrub over former camp accommodation areas. Footings present in scrub.
14	19919.81	Small, straightline ridge and furrow with areas of herb-rich grassland. Increasing scrub cover now reducing extent of grassland.
15	3115.26	Scrub over former camp accommodation areas. Footings present in scrub.
Total Area m2	145871.74	
Total Area ha	14.58ha	
Outside of site		
16	51076.41	Golf Course. Made Ground
	5.11ha	

**Annex 2**  
Flora from Site

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## Survey Records for Scraftoft North Field

Key:

EPR: species recorded by EPR on 6 July 2017. Relative abundance of grasses and other herbaceous species of conservation interest recorded with EPR's subjective DAFOR scale where: D – Dominant; A – Abundant; F – Frequent; O – Occasional and R – Rare. Prefixes V – Very and L – Locally. 1 = recorded from the site but with no abundance information.

Timms: Species recorded by S. Timms in 1997 and 2017 as presented in the report from her 2017 survey. No abundance data in Timms' report.

LWS Grassland Indicator species are those as listed in the Leicestershire LWS Selection Criteria. F= Mesotrophic grassland species; G = Wet grassland species; H = Acid Grassland species and J = Calcereous grassland species.

1 = recorded from the site

**Table A2.1: Species recorded from Scraftoft North/Field West of Beeby Lane by EPR and S. Timms.**

Species		EPR	Timms		LWS Grassland Indicators List	
		2017	1997	2017	F	Mixed (F,G,H and J)
<i>Grasses</i>						
<i>Agrostis capillaris</i>	Common Bent	A				
<i>Agrostis stolonifera</i>	Creeping Bent	R				
<i>Alopecurus pratensis</i>	Meadow Foxtail	O		1		
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	R	1			
<i>Arrhenatherum elatius</i>	False Oat Grass	LO				
<i>Cynosurus cristatus</i>	Crested Dog's Tail	LF	1			
<i>Dactylis glomerata</i>	Cocks Foot	LF				
<i>Elytrigia repens</i>	Couch Grass	R				
<i>Festuca rubra</i>	Red Fescue	R/VLO	1	1		
<i>Hordeum secalinum</i>	Meadow Barley	LF	1			
<i>Lolium perenne</i>	Perennial Rye-grass	LF				
<i>Phleum bertolonii/pratense</i>	Small/Large Timothy	R				
<i>Poa annua</i>	Annual Meadow-grass	R		1		
<i>Poa trivialis</i>	Rough-stalked Meadow-grass	R		1		
<i>Trisetum flavescens</i>	Yellow Oat-grass	R/VLO				
<i>Deschampsia cespitosa</i>	Tufted Hair-grass		1			
<i>Other Herbaceous Species</i>						
<i>Achillea millefolium</i>	Yarrow	1	1	1		

Species		EPR	Timms		LWS Grassland Indicators List	
		2017	1997	2017	F	Mixed (F,G,H and J)
<i>Agrimonia eupatoria</i>	Agrimony	R/VLO	1	1	1	F and J
<i>Anthriscus sylvaticus</i>	Cow Parsley	1		1		
<i>Calystegia sylvatica</i>	Bindweed	1				
<i>Cardamine pratensis</i>	Cuckoo Flower			1		G
<i>Carduus nutans</i>		1				
<i>Carex flacca</i>	Glaucous Sedge	VR			1	F
<i>Carex hirta</i>	Hairy Sedge	1	1	1		
<i>Centaurea nigra</i>	Common Knapweed	VR	1		1	F
<i>Cerastium fontanum</i>	Common Mouse-ear	1		1		
<i>Chaerophyllum temulum</i>	Rough Chervil	1		1		
<i>Cirsium arvense</i>	Creeping Thistle	1	1	1		
<i>Cirsium vulgare</i>	Spear Thistle	1	1	1		
<i>Crepis capillaris</i>	Smooth Hawksbeard	1				
<i>Dipsacus fullonum</i>	Teasel	1		1		
<i>Epilobium hirsutum</i>	Great Willowherb	1	1	1		
<i>Equisetum arvense</i>	Horsetail	1		1		
<i>Galium aparine</i> Cleavers	Cleavers	1		1		
<i>Galium verum</i> Lady's Bedstraw	Lady's Bedstraw	LF	1	1	1	F
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	1		1		
<i>Helminotheca echioides</i>	Bristly Ox-tongue	1				
<i>Heraclium mantegazzianum</i>	Giant Hogweed	1				
<i>Hypochaeris radicata</i> Common	Cat's Ear	1		1		
<i>Juncus articulatus</i>	Jointed Rush	1				G
<i>Juncus bufonius</i>	Toad Rush	1				G
<i>Lotus corniculatus</i>	Bird's-foot-trefoil	LO	1	1	1	F
<i>Odontites verna</i>	Red Bartsia	1		1		
<i>Plantago lanceolata</i>	Ribwort Plantain	1		1		
<i>Plantago major</i>	Greater Plantain	1		1		
<i>Potentilla anserina</i>	Silverweed	1				
<i>Potentilla reptans</i>	Creeping Cinquefoil	1	1	1		
<i>Prunella vulgaris</i>	Selfheal	1	1	1		
<i>Ranunculus acris</i>	Meadow Buttercup	LO	1	1	1	F

Species		EPR	Timms		LWS Grassland Indicators List	
		2017	1997	2017	F	Mixed (F,G,H and J)
<i>Ranunculus repens</i>	Creeping Buttercup	1		1		
<i>Ranunculus scleratus</i>	Celery-leaved Buttercup	1				
<i>Rorippa nasturtium-aquatica</i>	Water-cress	1				
<i>Rubus fruticosus agg.</i>	Bramble	1	1	1		
<i>Rumex acetosa Sorrel</i>	Common Sorrel	R/VLO		1	1	F
<i>Rumex conglomeratus</i>	Clustered Dock	1				
<i>Rumex crispus Curled dock</i>	Curled Dock	1	1	1		
<i>Rumex obtusifolius</i>	Broad-leaved Dock	1	1	1		
<i>Rumex sanguineus</i>	Wood Dock	1		1		
<i>Scorzonerooides autumnalis</i>	Autumn Hawkbit	R/VLO			1	F
<i>Senecio jacobaea</i>	Ragwort	1	1	1		
<i>Silene dioica</i>	Red Campion	1		1		
<i>Taraxacum Dandelion Y</i>	Dandelion	1		1		
<i>Trifolium pratense</i>	Red Clover	LO	1	1	1	F
<i>Trifolium repens</i>	White Clover	1		1		
<i>Urtica dioica</i>	Stinging Nettle	1		1		
<i>Veronica beccabunga</i>	Brooklime	1		1		
<i>Vicia sativa</i>	Common Vetch	1				
<i>Acer pseudoplatanus</i>	Sycamore	r				
<i>Bryonia dioica</i>	White Bryony	r				
<i>Crataegus monogyna</i>	Hawthorn	a	1	1		
<i>Fraxinus excelsior</i>	Ash	r/o		1		
<i>Hedera helix</i>	Ivy	o		1		
<i>Malus pumila</i>	Apple	r				
<i>Rosa canina</i>	Dog Rose	lf		1		
<i>Sambucus nigra</i>	Elder	o/lf		1		
<i>Recorded by Timms from the Grassland Areas</i>						
<i>Aphanes arvensis</i>	Parsley Piert			1		
<i>Geranium molle</i>	Dove's-foot Crane's-bill			1		
<i>Heracleum sphondylium</i>	Hogweed			1		
<i>Juncus acutiflorus/articulatus</i>	Jointed Rush			1		

Species		EPR	Timms		LWS Grassland Indicators List	
		2017	1997	2017	F	Mixed (F,G,H and J)
<i>Juncus inflexus</i>	Hard Rush		1			
<i>Luzula campestris</i>	Field Wood-rush			1	1	F
<i>Ranunculus bulbosus</i>	Bulbous Buttercup		1	1	1	F
<i>Rhinanthus minor</i>	Yellow Rattle		1		1	F
<i>Trifolium dubium</i>	Lesser Trefoil			1		
<i>Veronica arvensis</i>	Speedwell			1		
<i>Veronica chamaedrys</i>	Germander Speedwell			1		
<i>Veronica filiformis</i>	Speedwell			1		
<i>Veronica serpyllifolia</i>	Thyme-leaved Speedwell			1		
<i>Recorded by Timms from the Scrub Areas</i>						
<i>Arum maculatum</i>	Cuckoo Pint			1		
<i>Geum urbanum</i>	Herb Bennet			1		
<i>Glechoma hederacea</i>	Ground Ivy			1		
<i>Salix caprea</i>	Goat Willow			1		
<i>Tamus communis</i>	Black Bryony			1		
<i>Veronica hederifolia</i>	Ivy-leaved Speedwell			1		
Total No. of Species		73	26	62	12	16



**Table A2.2: Species listed on Leicestershire LWS Selection Criteria Grassland Indicator Species recorded from Scraptoft North/Field West of Beeby Lane by EPR and S. Timms.**

Species	LWS Mesotrophic Grassland Indicators			EPR 2017 Records		Timms, S.	
	F	Mixed List	Abundance	Comments on abundance	1997	2017	
<i>Agrostis capillaris</i>		H	O/LF	Frequent in the grassland areas			
<i>Galium verum</i>	1	F	O	Patches of throughout most of grassland areas.	1	1	
<i>Lotus corniculatus</i>	1	F	RLO	Patches of in most of grassland areas.	1	1	
<i>Ranunculus acris</i>	1	F	R	Scattered through grassland areas but not reaching 5% cover	1	1	
<i>Trifolium pratense</i>	1	F	R		1	1	
<i>Agrimonia eupatoria</i>	1	F and J	R		1	1	
<i>Rumex acetosa Sorrel</i>	1	F	R			1	
<i>Scorzoneroides autumnalis</i>		F	R				
<i>Carex flacca</i>	1	F	VR	A few plants on one bank close to Scraptoft Brook			
<i>Centaurea nigra</i>	1	F	VR	A few plants seen close to boundary in SE corner of site	1		
<i>Juncus articulatus</i>		G	VR	A few plants adjacent to the Scraptoft Brook (close to spring). Also in ephemeral pond in SW corner of site			
<i>Juncus bufonius</i>		G	VR	In ephemeral pond in SW corner of site			
<i>Cardamine pratensis</i>		G				1	
<i>Luzula campestris</i>	1	F		Not seen by EPR		1	
<i>Ranunculus bulbosus</i>	1	F			1	1	
<i>Rhinanthus minor</i>	1	F			1		
<b>No. of species</b>	<b>12</b>	<b>16</b>	<b>12</b>		<b>8</b>	<b>9</b>	

## **Annex 5**

### **Survey Photographs**

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Photo A5.1: bank on southern side of site with *Carex flacca*. This bank is on the boundary between parcels 4 and 6. The grassland here is MG5 grassland.



Photo A5.2: Broken cover over underground drainage in parcel 6.



Photo A5.3: Camp building footings inside scrub in parcel 7



Photo A5.4 Scrub expanding into grassland in Parcel 8.



A5.5: Grasslands on made ground on eastern part of site. Grazed short. Nettles locally abundant. Parcel 1



Photo A5.6; Footings and herb poor grasslands in Parcel 1.



Photo A5.7: Looking west from into parcel 14. Ragwort locally dominant.



Photo A5.8: Herb-poor grassland on ridge and furrow in parcel 8.

