

STAMFORD, RUTLAND

EXTENDED PHASE 1 SURVEY REPORT

FOR

RUTLAND COUNTY COUNCIL

JULY 2009

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0.0 Non-Technical Summary

Background to Phase 1 Habitat Survey

Landscape Science Consultancy Ltd (LSC Ltd) was commissioned by Rutland County Council (RCC) to conduct Extended Phase 1 Habitat Surveys on a compartment of land bordering the town of Stamford. The purpose of the surveys was to provide RCC with evidence on habitats and protected species within the compartment, as part of the Local Development Framework. The habitat surveys were conducted by LSC Ltd ecologists between April and May 2009 and followed best practice methodology. The results of the surveys have been detailed within a report and habitat map for the compartment of land.

Overview - Habitats

The survey compartment mostly encompasses the site of former limestone and clay quarry workings. Open and extensive areas of grassland have developed over the old quarry workings, and are partly influenced by the limestone soils beneath. The remaining land comprises open arable fields that were fallow at the time of survey and two extensive fields of grassland pasture are present to the west of the compartment and outside of the quarry boundary.

Species-poor hedgerows dominated by hawthorn with a low mix of other woody species are present along the boundaries of the compartment. Only one species-rich hedgerow was recorded. An extensive area of mature plantation broadleaf woodland is present within the centre of the compartment and has been planted over the deep depressions of previous quarry workings. A smaller area of semi-natural broadleaf woodland is present to the south east and comprises of over-mature scrub and broadleaf trees which have developed naturally over disturbed soils.

Several man made ponds are present to the north of the compartment and are known to support populations of great crested newts. The quarried section of the compartment is currently under a management plan for nature conservation, specifically targeted towards enhancing habitats for the population of great crested newts on-site and creating species-rich grasslands.

There are no sites of nature conservation within the compartment which receive national or European protection. Occasional isolated habitats within the compartment are offered a low level of protection through the local planning system, such as the plantation woodland, which is noted as being of Parish, or local value; and minor areas of grassland which are noted as being of District value. With the correct management, the developing grasslands within the quarry may have the potential to support species-rich swards where nutrient-poor soils and underlying limestone bedrock are most prominent. Such grasslands are of particular importance for invertebrates, particularly butterflies. Recommendations have been made in the report for the general protection and enhancement of hedgerows and trees within the compartment.

Overview - Protected Species

During the Phase 1 habitat surveys, the compartments were surveyed for the presence or the potential presence of protected species. The presence or potential presence of protected species is a material consideration for any land-use change within the compartments, and may significantly increase the value of habitats present.

The mosaic of woodlands, banks of bare and stony ground, ponds and grasslands found throughout the quarried area have the potential to provide suitable breeding and foraging habitat to support the more widespread reptile species such as grass snake and common lizard. A population of great crested newts are present in the ponds within the compartment, and the surrounding grassland and woodlands provide suitable foraging habitat for this species. A single great crested newt was recorded in one of the ponds at the time of survey.

The developing grasslands within the quarried area have the potential to provide suitable nesting and foraging habitat for ground-nesting birds. The hedgerows, woodland blocks and scrub habitats found throughout the compartment all have the potential to support a variety of nesting and foraging farmland birds. Such habitats also have the potential to provide foraging habitat for bats, although no immediate evidence of potential bat roosting sites was found within the compartment. Recommendations have been given with regards to conducting further protected surveys where they are found to be present or potentially present.

1.0 Introduction

1.1 Background

Landscape Science Consultancy Ltd (LSC Ltd) was commissioned by Rutland County Council to conduct Extended Phase 1 Habitat Surveys for one compartment of land bordering the town of Stamford, Rutland. The compartment reflects possible directions for growth that may be identified to meet the housing and other requirements of the Draft East Midlands Regional Plan.

The purpose of the survey is to provide Rutland County Council with evidence on habitats and protected species within the compartments of land surrounding Stamford.

1.2 Survey Objectives

The objectives of the surveys are:

- To provide evidence to support the Council's Local Development Framework and associated Sustainability Process in determining the future directions for growth, allocation of land for development and policies to protect and enhance local biodiversity.
- To provide sufficient information to assist in the determination of planning applications and to enable consistent and sustainable decisions to be made in respect of protecting biodiversity, with specific regard to the Council's obligations under Planning Policy 9 – Biological and Geological Conservation.
- To provide a baseline and monitoring framework for further surveying and/or monitoring of habitats and protected species within the Rutland area.

1.3 Survey Methodology

The survey methodology employed followed the Phase 1 Habitat Survey Guidelines JNCC (2003). This involved a walkover of each compartment of land to identify and target note all macro-habitats present and identify the presence of, or the potential presence for protected species. Any statutory or non-statutory sites of nature conservation within or adjacent to compartments were assessed. Any sites suitable for protection, such as areas of ancient woodland and potential veteran trees were identified.

This method provided a comprehensive and robust assessment of the extent, nature and conditions of habitats and associated species within each compartment of land to inform potential implications for land use planning. The full methodology is given in Appendix 1 in order to facilitate repetition as required.

1.4 Survey Reports

A report has been produced for the compartment of land surveyed in Stamford, together with accompanying target notes and Phase 1 Habitat maps.

Records of protected species, statutory and non-statutory nature conservation sites and Local Biodiversity Action Plan (LBAP) priority species within 2km of each compartment of land have been identified and mapped. All records were sourced from the Leicester Environmental Records Centre (LERC).

Habitats suitable for specific LBAP species which have the potential to provide 'wildlife corridors' in the wider landscape have also been identified and mapped, as well as unrecorded habitats of semi-natural value such as ancient woodland and veteran trees.

Recommendations are given as to any further surveys which may be required to inform future planning permissions and any mitigation recommended to ensure that habitats and species are satisfactorily protected and areas enhanced.

2.0 Legislation and Policy

The potentially relevant legislation is summarised below:

2.1 Legislation

The Conservation (Natural Habitats &c.) Regulations 1994 (as amended), or the 'Habitat Regulations', transposes European Directives into English and Welsh legislation. Under these regulations, wild animals of a European Protected Species (EPS) and their breeding sites or resting places are protected under Regulation 39. Such wild animals of an EPS include great crested newts and all species of bats. It is an offence to deliberately capture, injure or kill any such animal or deliberately take or destroy their eggs. It is also an offence to damage or destroy a breeding place or resting place of such an animal.

Amendments to the 'Habitat Regulations' in 2009 have now raised the threshold for deliberately disturbing a wild animal of an EPS. Under Regulation 39, it is now an offence if a person:

Deliberately disturbs wild animals of any such species which is likely:

- (a) To impair their ability -
 - to survive, to breed or reproduce, or to rear or nurture their young; or
 - in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- (b) To affect significantly, the local distribution or abundance of the species to which they belong.

The Wildlife and Countryside Act 1981 (as amended) adds further protection to wildlife in England and Wales under Part 1. It is unlawful to intentionally kill, injure or take any wild bird or take, damage or destroy the nest of any wild bird whilst the nest is in use or being built. If the bird is included on the Schedule 1 list, it is additionally an offence to intentionally disturb its nest during the breeding season.

Certain species of animal, such as the water vole, are offered 'full protection' under the Wildlife and Countryside Act 1981 (as amended) by being included in Schedule 5 in respect of certain offences under Section 9. Such offences include:

9(1) Intentional killing, injuring or taking of a Schedule 5 animal;

9(4a) Damage to, destruction of, obstruction of access to any structure or place used by a Schedule 5 animal for shelter or protection;

9(4b) Disturbance of a Schedule 5 animal occupying such a structure or place.

Widespread species of native reptiles occurring within England and Wales, such as the adder or common lizard, are protected against killing and injuring under the Wildlife and Countryside Act 1981 (as amended) only. Animals of an EPS are now only protected under offences 9(4a) and 9(4b) of Section 9, however the main legislative tool covering EPS's is under the 'Habitats Directive'.

Under the Hedgerow Regulations 1997 it is an offence to remove most hedgerows without permission from the Local Planning Authority. Permission for the removal of hedgerows may be refused if the Local Planning Authority determine any hedgerow to be 'Important' under criteria listed in Part II of Schedule 1 of the Regulations.

2.2 European Protected Sites

Under the 'Habitats Directive' and the EC Directive on the Conservation of Wild Birds (79/409/EEC) 'The Birds' Directive', all Member States were required to identify a network of protected sites which represent areas of habitats and species of high ecological value which are rare, endangered or vulnerable in the European Community. This network of protected sites is known as Natura 2000 and includes Special Protection Areas (SPA's) and Special Areas of Conservation (SAC's).

Originally implemented through the UK's requirements under the EC Directive on the Conservation of Wild Birds (79/409/EEC), SPA's were implemented to safeguard the habitats of species of regularly occurring migratory birds from significant impacts. Rutland Water SPA is the only Natura 2000 site in Rutland and is situated approximately 7km to the west of the area surveyed in Stamford.

Article 6 of the 'Habitats Directive' sets out circumstances under which a development having a significant adverse impact on a SPA site would only become acceptable where an overriding national need for development can be demonstrated and where there is a lack of alternative acceptable options.

Additionally, mitigation of habitat loss and/or improved habitat management measures should be implemented to ensure that the overall coherence of SPA's are protected. This is carried out by undertaking an Appropriate Assessment, which is a detailed appraisal of the impacts on the integrity of a Natura 2000 site. The Appropriate Assessment requires that all impacts within 2km of the SPA boundary are considered.

2.3 Ramsar Sites

Ramsar sites are wetlands of international importance designated under the Ramsar Convention, which was ratified by the UK Government in Iran in 1971. As a matter of policy, all Ramsar sites are also protected under Natura 2000 (as set out in the 'Habitat Regulations') and the vast majority are also SPA's.

Rutland Water SPA is designated as a Ramsar site of international importance.

2.4 Planning Policy Statement 9

Planning Policy Statement 9 (PPS9) Biodiversity and Geological Conservation aims 'to conserve, enhance and restore the diversity of England's wildlife by sustaining and where possible, improving the quality and extent of the natural habitat and the populations of naturally occurring species that they support.' (ODPM, 2005).

Under PPS9 local authorities are required to ensure that protected species and designated nature conservation sites are protected from the adverse affects of proposed developments through the use of control measures within the planning system.

Where impact would occur to biodiversity interest the local planning authority must be satisfied that there is no reasonable alternative and that adequate mitigation measures would be in place to result in less or no harm.

2.5 East Midlands Regional Spatial Strategy

The East Midlands Regional Spatial Strategy 2009 (RSS) provides a broad development strategy for the East Midlands up to 2026. The RSS also represents the spatial element of the East Midlands Integrated Regional Strategy (IRS).

The RSS planning policies are now used as the primary tool for development within Rutland; therefore policies under the Leicestershire, Leicester and Rutland Structure Plan are no longer applicable.

Policies listed under the RSS relevant to nature conservation are:

Policy 26

Protecting and Enhancing the Region's Natural and Cultural Heritage

Sustainable development should ensure the protection, appropriate management and enhancement of the Region's natural and cultural heritage. As a result the following principles should be applied:

- The Region's internationally and nationally designated natural and historic assets should receive the highest level of protection;
- Neither direct nor indirect damage to EU designated Natura 2000 sites will be permitted;
- Damage to natural and historic assets or their settings should be avoided wherever and as far as possible, recognising that such assets are usually irreplaceable;
- Unavoidable damage must be minimised and clearly justified by a need for development in that location which outweighs the damage that would result;
- Unavoidable damage which cannot be mitigated should be compensated for, preferably in a relevant local context, and where possible, in ways which also contribute to social and economic objectives;
- There should be a net increase in the quality and active management of natural and historic assets across the Region in ways that promote adaptation to climate change, and an increase in the quantity of environmental assets generally; and
- The Region's best and most versatile agricultural land should be protected from permanent loss or damage.

Policy 29

Priorities for Enhancing the Region's Biodiversity

Local Authorities, statutory environmental bodies and developers should work with the voluntary sector, landowners and local communities to implement the Regional Biodiversity Strategy, and to deliver a major step change increase in the level of biodiversity across the East Midlands.

Measures should include the:

- Achievement of the East Midlands regional contribution towards the UK Biodiversity Action Plan targets;
- Establishment of large scale habitat creation projects in the biodiversity conservation and enhancement areas;

- Establishment of a regional project to promote the re-creation of key wildlife habitats in each Natural Area in the East Midlands;
- Creating, protecting and enhancing networks of semi-natural green spaces in urban areas;
- Creating, protecting and enhancing features of the landscape which act as corridors and ‘stepping stones’, essential for the migration and dispersal of wildlife;
- Development and implementation of mechanisms to ensure that development results in no net loss of BAP habitats and species, particularly for restricted habitats with special environmental requirements, and that net gain is achieved; and
- Development and maintenance of appropriate data to monitor and report on regional targets Biodiversity Action Plans.

Policy 30

Regional Priorities for Managing and Increasing Woodland Cover

Local Authorities, statutory environmental bodies and developers should work with the voluntary sector, landowners and local communities to deliver a significant increase in woodland cover in the East Midlands in ways that respect local landscape character and support the implementation of the Regional Plan.

New cover should make use of species resistant to climate change and complement national and regional woodland strategies, including, for example, the Forestry Commission's Woodfuel Strategy for England. Any impact on local landscape character should be carefully considered.

New woodland should optimise social, environmental and economic value whilst recognising the biodiversity and character of existing woodland and the sensitivity of existing nature conservation or archaeological interest. New woodland should also avoid negative effects on water resources and contribute to flood alleviation and floodplain management.

Woodland unavoidably lost to development should be replaced with new woodland of equivalent value, preferably in the same landscape unit. Preference should be given to creating ‘new native woodland’ as defined in Forestry Commission Bulletin 112.

Opportunities should be taken to increase woodland cover as part of new development and by using other mechanisms, focusing on:

- Priority areas identified through Space4Trees including; the National Forest, Greenwood Community Forest, Sherwood Forest, Rockingham Forest, East Derbyshire, the Boston Woods Initiative and ancient woodland clusters in the Lincolnshire Limewoods and Leighfield Forest areas;

- The Northamptonshire Growth Areas, where woodland creation and linkage should feature as a significant component of new green infrastructure; and principal transport corridors and Strategic River Corridors delivering local Biodiversity Action Plan targets.

Ancient semi-natural woodlands, veteran trees and other woodlands of acknowledged national and regional importance should be strongly protected by Local Development Frameworks. There should be a general presumption against the conversion of any woodland to other land uses unless there are overriding public benefits.

Opportunities should be taken to secure sustainable management of all woodland, and to increase public access to high quality multi-functional woodland close to communities as part of the development of Green Infrastructure.

2.6 Rutland Local Plan

The Rutland Local Plan was adopted by Rutland County Council on 23rd July 2001 and provides land-use planning policies for the period 1991-2006. The Plan is currently in the process of being replaced by a portfolio of local development documents as part of the Local Development Framework (LDF).

The evidence given in this report will form part of the policies relating to nature conservation and the natural environment in the new LDF documents.

2.7 Natural Areas

Natural Areas are sub-divisions of England devised by Natural England, each with a characteristic association of wildlife and natural features. Each Natural Area has a unique identity resulting from the interaction of wildlife, landforms, geology, land use and human impact.

Natural Areas provide a wider context for nature conservation action and also provide the framework for Natural England in setting objectives for nature conservation, as well as forming the context of national and local Biodiversity Action Plan targets.

Stamford lies within the Lincolnshire and Rutland Limestone Natural Area 38 and its accompanying profile (Windrum, 1999), briefly describes and evaluates its wildlife and geological features, summarises the issues which affect the nature conservation resource and concludes with the long-term visionary objectives through which the nature conservation interest could be maintained and enriched.

Objectives set by Natural England for the Lincolnshire and Rutland Limestone Natural Area include:

- To maintain the extent and quality of the characteristic semi-natural habitats in the Natural Area, particularly the calcareous grasslands, freshwater and woodland habitats.

- To increase the semi-natural and characteristic habitats in the Natural Area particularly the grasslands, freshwater, woodland, and farmland habitats.
- To maintain and enhance important species and populations which are characteristic of the Natural Area.
- To survey and monitor species and habitats.
- To increase awareness of, and encourage appropriate use of the nature conservation resource to ensure that the biodiversity can be enjoyed by all, including future generations without damaging the Lincolnshire and Rutland Limestone environment.

2.8 Biodiversity Action Plans

The UK Biodiversity Action Plans (BAPs) were drafted for ‘Priority’ species and habitats in which specific conservation targets were set and are regularly reviewed. BAP features do not receive any legal protection but have biodiversity value within a national context. The UK BAPs also serve as a framework for local biodiversity conservation efforts.

“Biodiversity Challenge: An Action Plan for Leicester, Leicestershire and Rutland” was produced in 1998. The plan identifies local and national priority habitats and species, and sets targets for their conservation, outlines mechanisms for achieving these.

The species and habitats for which LBAP have been developed are detailed in Table 1.

Table 1: ‘Priority’ habitats and species listed under the Leicester, Leicestershire and Rutland LBAP.

Local Species Plans	Local Habitat Plans
Bats	Broadleaved woodland
Black hairstreak butterfly	Calcareous grassland
Black poplar	Eutrophic standing water
Dingy skipper	Fast-flowing streams
Grizzled skipper	Field margins
Dormouse	Floodplain wetland
Nightingale	Heath-grassland
Purple small-reed	Lowland wood-pasture and parkland
Redstart	Mature trees
Sand martin	Mesotrophic lakes
Violet helleborine	Neutral grassland
Water vole	Reed beds
White-clawed crayfish	Roadside verges
Wood vetch	Sphagnum ponds

Local Species Plans	Local Habitat Plans
	Springs and flushes
	Wet woodland

3.0 Methodology

3.1 Background Data

Background data with respect to protected species, statutory and non-statutory nature conservation sites and LBAP species within 2km of Stamford were obtained from the Leicestershire Environmental Records Centre (LERC). However, the data supplied does not identify the level of activity with regard to each record. The records only highlight that a particular species has been recorded at a particular location.

The 'MAGIC' website was also accessed for locations of statutory nature conservation sites and ancient woodlands within 2km of Stamford.

3.2 Field Surveys

3.2.1 *Phase 1 Habitat Survey*

The survey methodology employed followed the Phase 1 Habitat Survey Guidelines JNCC (2003). This involved a walkover of the compartment of land surrounding Stamford to identify and target note all macro-habitats present and identify the presence of, or the potential presence for protected species. Information with regards to badgers have not been included within this version of the report, due to the sensitive nature with regards to the location of badger setts.

This method provided a comprehensive and robust assessment of the extent, nature and conditions of habitats and associated species within each compartment of land to inform potential implications for land use planning.

The surveys were conducted by LSC Ltd ecologists from April through May 2009.

Various landowners were contacted to grant permission for access to land to conduct the surveys. Where access to land could not be attained, habitats were surveyed from adjacent accessed areas, public footpaths and byways using binoculars. Land which could not be accessed has been clearly identified within the target notes and survey reports.

Species lists for the main habitat areas were compiled. Plant nomenclature follows Stace (1997). The UK priority Species/Red Data book/locally important species lists were used to establish national, regional and local status of any rarer plants; animals or invertebrates recorded during the survey. Aerial photographs of the area were used to increase the accuracy of the survey.

The ecological survey of the compartments considered all relevant aspects of ecology in order to provide sufficient detail to:

- Identify and assess the overall habitat pattern of the compartment and associated linkages relevant to the proposals, highlighting the terrestrial habitats present.
- Assess the current ecological status and sensitivity, particularly in relation to any statutory designations.
- Identify presence or possible presence of protected species.
- Identify constraints to potential land-use change.
- Identify any notifiable weeds.

3.2.2 *Protected Species Survey*

During the walkover of each compartment of land, habitats were assessed for the presence of, and potential for, protected species. For example, rapid assessments were made of the potential for trees and buildings to support bat roosts, water bodies to support great crested newts and specific habitats to support reptile species.

Notes were also made of actual evidence of protected species which are more evident in the field such as the presence of water vole nests and field signs along watercourses and brief notes of vulnerable bird species.

4.0 Generic Area Description

4.1 Stamford – Landscape and Habitats

The compartment surveyed is located between the ancient town of Stamford to the south and the large village of Great Casterton to the north-east. The compartment is at the eastern boundary of the Rutland Plateau, an area which has a peak height of 149 AOD to the east above the Vale of Catmose, before dipping gently eastwards. The geology is predominantly Jurassic Limestone with parts overlain by a drift of glacial till and clays. The survey compartment itself is situated within the Gwash Valley sub-section of the Rutland Plateau; the valley is narrow and sinuous with continuous tree cover surrounded by open arable land. The River Gwash runs from east to west approximately 100m to the north of the compartment. The Great Northern Road, on the original route of a Roman road, runs along the southern boundary of the compartment.

The survey compartment encompasses the site of former limestone and clay quarry workings and is now largely arable in character, with open and extensive areas of grassland which have developed over the old quarry workings, and are partly influenced by the base-rich limestone soils beneath. The arable fields were fallow at the time of survey and were dominated by common arable weeds and ruderal plant species, indicative of disturbance and nutrient enrichment. Managed species-poor hedgerows are prominent along the boundaries of the compartment; however the

grasslands and arable fields are open in character and have not been completely enclosed by hedgerows.

The quarry is still partly active towards the north of the compartment where areas of bare ground dominate. However, the majority of activity is outside the compartment boundary.

An extensive area of mature plantation broadleaf woodland is present within the centre of the compartment and has been planted over the deep depressions of previous quarry workings, probably at the turn of the century. A smaller area of semi-natural broadleaf woodland is present to the south east and comprises over-mature hawthorn scrub and broadleaf trees which have developed due to natural succession over previous quarry workings. Several man made ponds are present to the north of the compartment and are known to support populations of great crested newts.

The compartment is currently under a management plan for nature conservation, specifically targeted towards enhancing habitats for the population of great crested newts on-site and creating species-rich grasslands.

Two extensive fields of improved grassland are present to the west of the compartment and are outside of the quarry boundary. These fields could not be directly accessed during the survey period and observations were made on field boundaries with binoculars.

The compartment is connected to the surrounding landscapes through hedgerows; however there are no further linear features such as railways or water courses which would provide further connectivity.

5.0 Compartment Results

The compartment location is shown in Figure 01 and the Phase 1 Habitat Map is illustrated in Figure 02. Field target notes for the compartment are included in Appendix 2 and background data is given in Appendix 4. A glossary of terms used in the compartment report is provided in Appendix 5.

5.1 Compartment 1

5.1.1 *Compartment Description*

Compartment 1 covers an area of approximately 70ha on the north western urban fringe of Stamford. The majority of the compartment is a former quarry and is dominated by large arable fields with open and extensive areas of grassland bounded by hedgerows. An extensive block of plantation woodland dominates the centre of the compartment, with an area of naturally regenerated mature scrub and broadleaf trees to the south-east.

Two extensive fields of improved grassland are present to the west of the compartment and are outside of the quarry boundary.

Active quarry workings are prominent to the north of the compartment and to the west open countryside predominates. To the south and east is residential and urban development associated with the town of Stamford.

5.1.2 *Background Data, Habitats and Species*

The results given in this report are as supplied at the time of survey May 2009.

European Protected Sites of Nature Conservation Interest

There are no European protected sites of nature conservation interest within 2km of the compartment.

Statutory Sites of Nature Conservation Interest

There are two statutory sites of nature conservation interest within 2km of the compartment. These are the Tickencote Marsh Site of Special Scientific Interest (SSSI) which lies approximately 2km to the west of the compartment; and Toilethorpe Road Verges (North and South) SSSI which lie approximately 0.7km to the north of the compartment.

No part of the compartment falls within, or abuts the boundary of, any statutory site of nature conservation interest.

Non-Statutory Sites of Nature Conservation Interest

There are a number of non-statutory sites of nature conservation interest within a 2km radius of the compartment.

Three non-statutory sites of nature conservation interest fall within the compartment boundary. The area of plantation woodland within the centre of the compartment (S1 – 25) is noted as being of Parish level importance. There are two further non-statutory sites within the compartment and consist of two areas of grassland on the banks of Stone Quarry and Stamford Brick Works, two former working areas within the compartment. Both grasslands are noted as being of District level importance.

The compartment does not abut any other non-statutory site of nature conservation interest.

Species

Records exist for protected species within the compartment boundary.

Great crested newts were recorded within the compartment boundary in April 2005.

The sulphur clover was also noted as present within the compartment in 1995, and is a species typical of lime-rich unimproved soil which is generally geographically restricted to the south eastern region of England.

Records also exist for other protected species within a 2km radius of the compartment.

5.1.3 *Survey Results*

Habitats

Arable Land

To the south of the compartment, an arable field (S1 – 1) is present which, at the time of survey, still had stubble present from previous crops and was left fallow. The field is overgrown with the common arable weed black twitch as well as ruderal herbaceous species typical of nutrient enrichment, such as prickly sow-thistle, bristly ox-tongue, dandelion, common nettle and creeping thistle, with frequent patches of bare ground throughout (Photograph 01). At the southern edge of the field, an area of unmanaged grasses and herbs are present and support a dominance of barren brome with arable weeds and ruderal species including hedge mustard, field bindweed, common ragwort and field madder. The sward is low growing throughout much of this area although occasional grasses and ruderals reach heights of up to 15cm.



Photograph 01. Arable field S1 – 1.

A further arable field occurs directly to the north, on the northern site boundary (S1 – 6). The field was similarly fallow and supported an abundance of barren brome with black twitch and ruderal herbaceous species including groundsel, spear thistle, creeping thistle, dandelion and broad-leaved willowherb.

The botanical communities which have colonised these arable species are typical of nutrient-rich arable land which has been left fallow.

Unimproved/Semi - Improved Grassland

Extensive areas of grassland have developed over the disturbed soils within the old quarry working to the east of the compartment. The grasslands within this compartment are therefore not akin to grasslands of permanent pasture.

The area of grassland to the north east of the compartment (S1 – 7) supports a tall, rank and unmanaged sward which appears to be shorter to the west, possibly due to rabbit and deer grazing. Grass species present within the grassland include cock's foot, barren brome, false-oat grass, Yorkshire fog and red fescue. Frequent herbaceous species, indicative of the underlying base-rich conditions, are present throughout the sward and include wild carrot, yarrow, bird's foot trefoil, hop trefoil and black knapweed (Photograph 02). Other herbaceous species include frequent field speedwell, common vetch, ribwort plantain and common mouse-ear, as well as ruderal species indicative of nutrient enrichment such as hogweed and broadleaf dock.

Occasional damper areas of ground are present within this grassland and support typical species such as common sedge, glaucous sedge and rush. The composition of botanical communities present within this grassland is indicative of a developing unimproved sward over the previously disturbed soils.



Photograph 02. Tall sward grassland S1 – 7, with botanical communities indicative of the underlying base-rich conditions.

Further to the south, the grassland swards become shorter in height, probably due to a combined influence of grazing by rabbits and deer and the compacted, disturbed and thin soils which are likely to prevail beneath (S1 – 9 & 14). The botanical composition of these grasslands is similar to S1 – 7 to the north, although with only occasional occurrences typical of the underlying base-rich conditions such as black knapweed and bird's foot trefoil, with a higher frequency of ruderal and grass species.

Grassland S1 – 14 to the very south of the compartment supports a particularly short sward height over what appears to be disturbed and compacted ground, with areas of locally dominant hawthorn scrub (Photograph 03). Species typical of base-rich conditions such as black knapweed, agrimony and bird's foot are evident at the edges of the scrub with tall ruderal vegetation such as teasel, bristly ox-tongue and common ragwort also present. It is evident that the hawthorn has been cut back in places to reduce its extent. A similar composition of botanical communities exists where a thin line of hawthorn scrub is present just to the north west (S1 – 4).



Photograph 03. Short-sward semi-improved grassland with scattered scrub (S1 – 14).

To the west of S1 – 14, a low semi-improved sward is developing over what may have been an arable field, where an abundance of grass and herbaceous species typical of nutrient-rich conditions have developed, such as barren brome, dandelion, bristly ox-tongue, white clover, red clover, teasel and field madder (S1 – 2, Photograph 04). Due to the nutrient-rich conditions, base-rich species do not appear within this grassland area. Towards the hedgerow to the east (S1 – 3), the vegetation is a rank grass sward with ruderal vegetation.



Photograph 04. Semi-improved grassland developing over previously cultivated land.

Other areas of grassland within the quarry area are present to the north, where an area of open short-sward grassland surrounds three ponds (S1 – 5). The sward appears to be more akin to that of improved pastures to the south, due to a dominance of perennial rye grass and white clover. To the north, the sward appears to be less improved due to a higher frequency of grass species such as Yorkshire fog, cock's foot and sweet vernal grass, with various herbaceous species present throughout including yarrow, common mouse-ear, bulbous buttercup and colt's foot. Young saplings of ash and hawthorn are present to the south of the grassland and are evidentially encroaching from the adjacent plantation woodland. A similar area of grassland is present towards the west of the quarry area (S1 – 17).

It is evident that the botanical communities present within the grasslands have developed in response to the previous worked nature of the underlying soils, particularly where the base-rich limestone bedrock was present. Evidence of developing species-rich botanical communities are present in the grassland to the north (S1 – 7) and in discrete patches throughout the grasslands to the south. Isolated patches of grassland within these areas are noted as being of District importance within the background data search (Appendix 4).

The grasslands, with the correct management, may have the potential to support species-rich swards where nutrient poor soils and underlying limestone bedrock are most prominent. Such species-rich grasslands are particularly important for butterfly species.

Improved Grassland

To the west of the quarry area, two large rectangular pasture fields are present bounded by hedgerows (S1 – 18). No access was gained to this area during the survey period. The grasslands were, however, viewed from the quarry area and were horse grazed to a short sward height and appeared to be typical of permanent improved pastures, with a lush, bright green sward indicative of a dominance of perennial rye grass.

Species-Poor Hedgerows

Species-poor hedgerows are present along the majority of the compartment boundaries (Photograph 05). The hedgerows are dominated by hawthorn with a lower number of other woody species such as occasional elm, blackthorn and elder. Occasional to frequent gaps are present within the majority of boundary hedgerows.

The hedgerows are generally managed to a height and width of 2-3m, with ruderal and grass species including cleavers, barren brome, soft brome, common nettle, bramble and cow parsley dominant within the hedgerow understoreys (i.e. S1 – 10, 24, 31, 32, 33, and 34). Hedgerow trees are uncommon within boundary hedgerows with only occasional young standards of ash present.



Photograph 05. A typical species-poor hedgerow bounding the compartment (S1 – 11).

A short tree line is present to the west of the quarried area (S1 – 23), adjacent to an area of bare ground (S1 – 22). The tree line is approximately 15m in height and comprises semi-mature poplar, Leyland cypress, silver birch, hornbeam and whitebeam. Self-set poplar saplings are abundant within the adjacent area of bare ground to the west.

Species-Rich Hedgerow

Two lengths of hedgerow along the southern compartment boundary are species-rich and support an abundance of hawthorn with a variety of other woody species such as frequent blackthorn and dog rose, as well as occasional wild privet, elder, hazel and ash (S1 21 & 26). S1 – 21 appears to be infrequently managed and reaches a height of 2 – 3m and width of 3m. The hedgerow has occasional gaps along its length with an understorey dominated by ruderal species including cow parsley, white dead-nettle, hogweed and barren brome. Occasional semi-mature ash trees are present in the tree line.

Hedgerow S1 – 26 is present further to the west, on a bank at the side of The Great North Road. The hedgerow appears to be unmanaged and reaches a height of approximately 4-5m. An abundance of hawthorn is present with occasional to frequent ash, hazel, elm, wild privet, dog rose and blackthorn. Occasional semi-mature ash and elm trees are present along the hedgerow.

Plantation Broadleaf Woodland

An extensive block of woodland has been planted within the central section of the compartment, probably within the last 100-150 years (Photograph 06). The woodland floor has a distinct and deep ‘hills and holes’ landscape, due to the previous use as a limestone quarry which has created the varied topography throughout.



Photograph 06. Plantation Broadleaf Woodland S1 – 25.

Ash is abundant within the woodland canopy with frequent sycamore and occasional plantings of willow, goat willow, larch and poplar, particularly near the woodland edges. The woodland canopy is open in parts, mostly due to the die back of larch

trees. The shrub layer is variable throughout the woodland, with areas of dense and scattered hawthorn and elder intermixed with occasional holly, elder, wild privet and dog rose. Deadwood is present in abundance throughout the woodland floor.

The majority of the field layer is dominated by bare ground with ruderal species such as cow parsley, common nettle and cleavers with locally frequent areas of woodland species such as lesser celandine, wood avens and lords and ladies. A distinct woodland edge is present, particularly to the east, where natural succession by shrubs into tall ruderal vegetation has created a diverse edge habitat, in terms of both age and structure (Photograph 07).



Photograph 07. Woodland edge habitat.

Although botanically poor, the majority of the woodland is diverse in age and structure throughout the woodland layers, which is enhanced by the 'hills and holes' landscape of the woodland floor and the provision of deadwood. The woodland is noted as being of Parish level importance within the background data search.

Semi-Natural Broadleaf Woodland

A second and smaller area of woodland is present to the south east of the plantation woodland and appears to be secondary in origin developing through natural succession within the former quarry workings in this area (Photograph 08). The woodland is dominated by mature hawthorn to 10m in height, interspersed with occasional elder and box. Occasional semi-mature ash, elder, pedunculate oak, sycamore and willow also form distinctive layers within the canopy, many of which are clad with ivy.

The field layer supports developing areas of woodland species including wood avens, herb Robert, lords and ladies and a small patch of dog's mercury, although bare ground, moss species and deadwood are abundant throughout. A strip of younger hawthorn is present along the south-west edge of the woodland. The ground layer of the woodland appears to be heavily disturbed.



Photograph 08. Semi-natural woodland S1 – 13.

Open Water

Three ponds are present to the north of the compartment and have been created within recent years (S1 – 27, 28 and 30). The ponds are known to support great crested newts.

The first pond, S1 – 27, is just to the north of the extensive block of plantation woodland and covers an area of 30-40m². An abundance of the floating aquatic plant broad-leaved pondweed is present, with the emergent bulrush covering 30-40% of the waters' surface (Photograph 09). The pond was too heavily vegetated to give an indication of its depth. The banks of the pond rise to 2-5m with a fairly uniform aspect of 30-40° throughout. A thin band of rush is present around the waters' edge. The banks of the pond support abundant bare ground with a developing floral community typical of disturbed ground including spear thistle, creeping thistle, teasel, red clover, dandelion and daisy.



Photograph 09. Pond S1 – 27.

The second pond, S1 – 28, is situated just to the north of pond S1 – 27 and is of a similar size (Photograph 10). The banks of the pond are shallow, rising to 0.5-1m

with a fairly uniform aspect of 30° throughout. Semi-improved grassland is present on the pond banks with Yorkshire fog, red fescue, spear thistle, white clover, ribwort plantain, greater plantain, creeping buttercup, common mouse-ear and occasional sedge species. A 2-3m band of soft rush and hard rush is present around the pond margins with locally abundant great willowherb and occasional water plantain, cuckoo flower and creeping buttercup. Broad-leaved pondweed is found frequently within the pond.



Photograph 10. Pond S1 – 28.

The third pond, S1 – 30, is situated just to the north east of pond S1 – 28 and is of a size similar to the previous ponds (Photograph 11). Pond S1 - 30 supports less aquatic vegetation than the previous ponds, with thin bands of locally abundant bulrush and common reed present at the pond margins, with occasional patches of broad-leaved pondweed floating on the waters' surface. Clumps of rush form a thin and scattered band around the pond margins. The banks of the pond are shallow, rising to a height of 0.3m and support semi-improved grassland with Yorkshire fog, red fescue, spear thistle, white clover, ribwort plantain, greater plantain, creeping buttercup and common mouse-ear.



Photograph 11. Pond S1 – 30.

A small area of seasonally damp open water, resembling a wet depression, is present to the south east of the compartment. However, there was water present at the time of survey in May following a period of little rain. The water is clear and shallow, to a depth of approximately 10cm. Aquatic and marginal vegetation present includes occasional sweet grass, iris, hard rush and pondweed species.

Bare Ground With Tall Ruderal Vegetation

An extensive area of disturbed bare ground with a landscape of shallow 'hills and holes' is present along the south eastern boundary of the compartment (Photograph 12). Tall ruderal vegetation has typically developed over this disturbed substrate in distinct and locally dominant patches which includes spear thistle, creeping thistle, wood avens, bramble, cock's foot, burdock, horsetail and nipplewort. Patches of young scattered scrub have also developed in this area which includes willow, butterfly bush, hawthorn and rose.

Other herbaceous species present include wild carrot, cowslip, herb Robert, perforate St John's wort and wood avens. There is a large bank of earth, covered with largely ruderal vegetation between this area and the grassland field to the north.



Photograph 12. Bare ground with tall ruderal vegetation S1 – 15.

A further area of ruderal vegetation is present at the northern boundary of the compartment, on a mound within an arable field (S1 – 8). Common nettle dominates with semi-mature elder shrubs and rose also present. Herbaceous species include cow parsley, spear thistle and creeping thistle.

Bare Ground With Short Perennial Vegetation

A small rectangular area of 'waste ground' is present to the south western edge of the compartment and appears to be, in part, a redundant development site (S1 – 22, Photograph 13). Short perennial vegetation dominates to the north, with a variety of typical species including white clover, red clover, ribwort plantain, greater plantain, dandelion and daisy. Silver birch and poplar saplings are encroaching throughout the vegetation. Bare ground is frequent throughout this habitat which appears to be stony and compact.

Mounds of rubble and waste are present and are overgrown with tall ruderal vegetation such as teasel, common nettle, garlic mustard and rosebay willowherb.



Photograph 13. Bare ground with short perennial vegetation S1 – 22.

Bare Ground

S1 – 29 forms part of the current quarry workings to the north of the compartment, where compacted clays prevail with a high terraced bank along the western and eastern boundary (Photograph 14). Occasional areas of limestone rubble and stone are present.

Occasional patches of scattered developing colt's foot, teasel and ribwort plantain are present throughout the bare ground.



Photograph 14. Bare ground at S1 – 29.

Species

Birds

Skylarks and meadow pipit were recorded throughout the semi-improved grasslands which have developed in the quarried area. These grasslands have the potential to provide suitable nesting and foraging habitat for ground-nesting birds.

The hedgerows, woodland blocks and scrub areas all have the potential to support a variety of nesting and foraging farmland birds.

Great Crested Newts

The ephemeral pond at S1 – 16 has low potential to provide breeding habitat for great crested newt. However, the three ponds at S1 – 27, 28 and 30 are all known to support great crested newts. A great crested newt was seen in pond S1 – 28 at the time of survey.

Reptiles

The mosaic of woodlands, banks of bare and stony ground, ponds and grasslands found throughout the quarried area have suitable breeding and foraging potential to support the more widespread reptile species such as grass snake and common lizard.

Invertebrates

The compartment grasslands support a variety of base-rich herbaceous species where nutrient-poor soils and underlying limestone bedrock are most prominent. These species, such as bird's foot trefoil, are particularly important for a variety of invertebrates, particularly butterfly species.

5.1.4 *Recommendations*

Hedgerows

Where appropriate, the hedges should be protected and managed to improve the structure, diversity and function of the hedge line. Dead wood should be cleared out and gaps should be infilled with native indigenous shrubs such as dogwood, blackthorn, guelder rose, buckthorn, spindle, field maple and wild privet.

Consideration should be given to the planting of new hedgerows where appropriate, so that links to the wider landscape are enhanced and maintained. Tree planting should be done using native indigenous species.

All species-rich hedgerows within the compartment would need to be fully surveyed to assess whether they are likely to meet the criteria of an 'important' hedgerow under the Hedgerow Regulations 1997.

Trees

Consideration should be given to the protection of trees and their root structures within the compartment, following British Standard (BS) 5837 guidelines.

It is recommended that the planting of native trees and shrubs to enhance and strengthen existing tree lines, scrub and woodlands should also be considered.

Water

Consideration should be given to the protection of watercourses in accordance with Environment Agency best practice, with respect to controlling runoff, diffuse and point source pollution and contamination of the water course.

Protected Species Surveys

In order to ascertain the distribution and abundance of protected species within the compartment, it is recommended that the following protected species surveys may potentially need to be carried out.

Three ponds are present to the north section of the compartment and all three are known to support populations of great crested newt. In addition, historical records exist for great crested newts within the compartment boundary. The ephemeral pond at S1 – 16 on the southern boundary of the compartment also has low potential to support great crested newts. With the range of terrestrial habitats for foraging and hibernation also present within the compartment, dedicated presence/absence surveys for this species would need to be carried out.

The mosaic of habitats within the quarried area provide optimal habitat for grass snakes and common lizard. It is therefore recommended that a dedicated reptile survey should be undertaken throughout the compartment.

The habitats within the compartment have the potential to support a wide variety of ground-nesting and tree/shrub nesting birds. It is recommended that dedicated bird surveys are therefore carried out throughout the compartment.

Consideration should be given to conducting invertebrate surveys within the compartment grasslands, due to the developing swards of base-rich floral species and mosaic of habitat structures present.

The above surveys should be undertaken according to Best Practice at the time of commission.

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Stace, C. (1999). Field Flora of the British Isles. Cambridge University Press.

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Guidelines for the selection of Sites of Importance for Nature Conservation in Leicester. Leicestershire and Rutland, Revised May 2001.

Leicestershire and Rutland Wildlife Trust (1998). Leicestershire Biodiversity Action Plan (BAP) www.lrwt.org.uk

East Midlands Regional Spatial Strategy 2009 - 2021

Policy 26 - Protecting and Enhancing the Region's Natural and Cultural Heritage

Policy 28 - Priorities for Enhancing the Region's Biodiversity

Policy 29 - A Regional Target for Increasing Woodland Cover

Leicestershire Environmental Resources Centre.

Websites:

MAGIC www.magic.gov.uk

APPENDIX 1

PHASE 1 SURVEY FORMS

Phase 1 Habitat Survey – LSC Standard Recording Methodology

Rutland County Council 2009

WOODLAND – ALL TYPES

Broadleaved - <10%
Conifers

Coniferous - <10%
Broadleaved

Mixed - 10-90% *broadleaved or
conifer*

Scrub - *woody species <5m
tall*

Carr - *willows or alder with a
marshy understorey*

Open - *scattered trees with pasture
below (trees <30%)*

Woodland layers: CANOPY, SHRUB/UNDERSTOREY, FIELD, GROUND

Recording attributes: Woodland layers present and % cover, species in each layer, approximate age of trees/shrubs, indicator plant species of ancient woodland, rare plant species, deadwood, leaf litter, bare ground, previous/current woodland management, rides and glades (see grasslands), potential for protected species.

GRASSLAND – ALL TYPES

Recording attributes: Species, average sward height, previous/current management, bare ground, dead thatch, grazing livestock, indicator species of unimproved grassland and/or impeded drainage (wet grassland), rare plant species, indicator species of soil types (acid/neutral/calcareous), agricultural improvement, ridge and furrow, ant hills, potential for protected species.

RUNNING WATER – STREAMS AND RIVERS

River/stream zones: WATER CHANNEL, MARGINS, BANKS

Recording attributes: Species in each zone (floating, submerged, emergent, marginal, bankside), flow rate and direction, substrate type, approximate height/width/depth/aspect of each zone, pollution/water quality, previous/current management, potential for protected species.

STANDING WATER – PONDS, LAKES, CANALS, DITCHES

Recording attributes: Species (floating, submerged, emergent, marginal, bankside), approximate area and depth of water, approximate height/width/aspect of banks, adjacent terrestrial habitat, presence of pollution/water quality, previous/current management, potential for protected species.

TALL HERB AND FERN – BRACKEN, RUDERAL, NON-RUDERAL

Recording attributes: Species, height of vegetation, evidence of nutrient enrichment and/or disturbance, potential for protected species.

SWAMP, MARGINAL AND INUNDATION

Recording attributes: Species, height of vegetation, depth of water, substrate, area of habitat type, seasonal variation in water level, evidence of nutrient enrichment, potential for protected species.

FEN – ALL TYPES

Recording attributes: Species, height of vegetation, depth of water, substrate, area of habitat type, evidence of nutrient enrichment, obvious water flow (soligenous), impeded drainage (topogenous), previous/current management, potential for protected species.

SHORT EPHEMERAL/PERENNIAL VEGETATION

Recording attributes: Species, substrate, area of bare ground, area of habitat type, evidence of disturbance, height of vegetation, potential for protected species.

**STAMFORD, RUTLAND
EXTENDED PHASE 1 HABITAT SURVEYS**

TN (& compartment N°): **Component ID:** **Photograph:** **Access (Y/N?):**

Broad Habitat Classification(s):

Habitat Description / Protected Species Potential:

Species List:						

TN (& compartment N°): **Component ID:** **Photograph:** **Access (Y/N?):**

Broad Habitat Classification(s):

Habitat Description / Protected Species Potential:

Species List:						

**STAMFORD, RUTLAND
EXTENDED PHASE 1 HABITAT SURVEYS**

SPECIES-RICH HEDGEROW RECORDING SHEET

Hedgerow N^o(s) and Compartment N^o :

Photograph:

Access (Y/N?):

Height (m)

Width (m)

Recently laid or coppiced?

Hedgerow runs along bridleway, footpath, road used as a public path or a bridleway open to all traffic?

Woody species present:

Alder, common (<i>Alnus glutinosa</i>)	<input type="text"/>	Gorse (<i>Ulex europaeus</i>)	<input type="text"/>	Privet, wild (<i>Ligustrum vulgare</i>)	<input type="text"/>
Apple, crab (<i>Malus sylvestris</i>)	<input type="text"/>	Gorse, western (<i>Ulex gallii</i>)	<input type="text"/>	Rose, dog- (<i>Rosa canina</i>)	<input type="text"/>
Ash (<i>Fraxinus excelsior</i>)	<input type="text"/>	Guelder rose (<i>Viburnum opulus</i>)	<input type="text"/>	Rose, field- (<i>Rosa arvensis</i>)	<input type="text"/>
Aspen (<i>Populus tremula</i>)	<input type="text"/>	Hawthorn, Common (<i>Crataegus monogyna.</i>)	<input type="text"/>	Rose (<i>Rosa</i> sp.)	<input type="text"/>
Beech (<i>Fagus sylvatica</i>)	<input type="text"/>	Hawthorn, Midland (<i>Crataegus laevigata</i>)	<input type="text"/>	Rowan (<i>Sorbus aucuparia</i>)	<input type="text"/>
Birch, downy (<i>Betula pubescens</i>)	<input type="text"/>	Hazel (<i>Corylus avellana</i>)	<input type="text"/>	Spindle (<i>Euonymus europaeus</i>)	<input type="text"/>
Birch, silver (<i>Betula pendula</i>)	<input type="text"/>	Holly (<i>Ilex aquifolium</i>)	<input type="text"/>	Sycamore (<i>Acer pseudoplatanus</i>)	<input type="text"/>
Blackthorn (<i>Prunus spinosa</i>)	<input type="text"/>	Hornbeam (<i>Carpinus betulus</i>)	<input type="text"/>	Wayfaring-tree (<i>Viburnum lantana</i>)	<input type="text"/>
Broom (<i>Cytisus scoparius</i>)	<input type="text"/>	Lime, large-leaved (<i>Tilia platyphyllos</i>)	<input type="text"/>	Willow, grey (<i>Salix cinerea</i>)	<input type="text"/>
Buckthorn (<i>Rhamnus cathartica</i>)	<input type="text"/>	Maple, field (<i>Acer campestre</i>)	<input type="text"/>	Willow, goat (<i>Salix caprea</i>)	<input type="text"/>
Cherry, wild (<i>Prunus avium</i>)	<input type="text"/>	Oak, pedunculate (<i>Quercus robur</i>)	<input type="text"/>	Willow (<i>Salix</i> sp.)	<input type="text"/>
Dogwood (<i>Cornus sanguinea</i>)	<input type="text"/>	Oak, sessile (<i>Quercus petraea</i>)	<input type="text"/>		<input type="text"/>
Elder (<i>Sambucus nigra</i>)	<input type="text"/>	Pear, (<i>Pyrus communis</i>)	<input type="text"/>		<input type="text"/>
Elm, English (<i>Ulmus procera</i>)	<input type="text"/>	Pine, Scots (<i>Pinus sylvestris</i>)	<input type="text"/>		<input type="text"/>
Elm, wych (<i>Ulmus glabra</i>)	<input type="text"/>	Plum, wild (<i>Prunus domestica</i>)	<input type="text"/>		<input type="text"/>
Elm, (<i>Ulmus</i> sp.)	<input type="text"/>	Poplar, black (<i>Populus nigra betulifolia</i>)	<input type="text"/>		<input type="text"/>

N^o of woody species:

Is the hedgerow recently planted (<30 years)?

Other climbers present:

Bramble (<i>Rubus fruticosus</i> agg.)	<input type="text"/>	Honeysuckle (<i>Lonicera periclymenum</i>)	<input type="text"/>	Ivy (<i>Hedera helix</i>)	<input type="text"/>
Traveller's-joy (<i>Clematis vitalba</i>)	<input type="text"/>	White bryony (<i>Bryonia dioica</i>)	<input type="text"/>		<input type="text"/>

Standard trees (Species, frequency/number and average height):

On average, at least one standard tree per 50m in the hedgerow length?

Ground flora (Dominants and ancient woodland indicator species):

More than three woodland species in hedgerow (from list of 57 plants)?

Other associated features:

Bank/wall supporting hedgerow at least one half length?	<input type="text"/>
Less than 10% gaps in hedgerow length?	<input type="text"/>
A ditch along at least one half length of the hedgerow?	<input type="text"/>
A parallel hedge within 15m of the hedgerow?	<input type="text"/>
Number of connections with other hedgerows, ponds and woodlands?	<input type="text"/>

Other comments (i.e. condition, shape or management of hedgerow):

APPENDIX 2

PHASE 1 HABITAT SURVEY TARGET NOTES

TN No. /Access	Description	Species
S1 – 1 FULL ACCESS	<p><u>Arable Land</u></p> <p>Arable field which still has stubble from previous crops present, was overgrown with black twitch (<i>Alopecurus myosuroides</i>) as well as ruderals including prickly sow-thistle (<i>Sonchus asper</i>), bristly ox-tongue (<i>Picris echinoides</i>), dandelion (<i>Taraxacum officinale</i> agg.), common nettle (<i>Urtica dioica</i>) and creeping thistle (<i>Cirsium arvense</i>) with bare ground in between. At the southern end is an area which has been out of agriculture for longer; here barren brome (<i>Bromus sterilis</i>) dominates with arable weeds and ruderals including hedge mustard (<i>Sisymbrium officinale</i>), bindweed (<i>Convolvulus</i> spp.), common ragwort (<i>Senecio jacobaea</i>) and field madder (<i>Rubia peregrina</i>). The sward is low growing throughout much of the field with larger grasses and ruderals to ~15cm.</p>	<p>Black twitch (<i>Alopecurus myosuroides</i>), barren brome (<i>Bromus sterilis</i>), dandelion (<i>Taraxacum officinale</i> agg.), teasel (<i>Dipsacus fullonum</i>), meadow grass (<i>Poa</i> spp.), bristly ox-tongue (<i>Picris echinoides</i>), prickly sow-thistle (<i>Sonchus asper</i>), groundsel (<i>Senecio vulgaris</i>), field madder (<i>Rubia peregrina</i>), common poppy (<i>Papaver rhoeas</i>), spear thistle (<i>Cirsium vulgare</i>), broad-leaved willowherb (<i>Epilobium montanum</i>), perennial rye grass (<i>Lolium perenne</i>), broadleaf dock (<i>Rumex obtusifolius</i>), common ragwort (<i>Senecio jacobaea</i>), white dead-nettle (<i>Lamium album</i>), common nettle (<i>Urtica dioica</i>), creeping thistle (<i>Cirsium arvense</i>), white campion (<i>Silene latifolia</i>), red dead-nettle (<i>Lamium purpureum</i>), bindweed (<i>Convolvulus</i> spp.), red clover (<i>Trifolium pratense</i>), field forget-me-not (<i>Myosotis arvensis</i>), broad leaved plantain (<i>Plantago major</i>), shepherd's purse (<i>Capsella bursa-pastoris</i>), hedge mustard (<i>Sisymbrium officinale</i>), cow parsley (<i>Anthriscus sylvestris</i>), cleavers (<i>Galium aparine</i>), ribwort plantain (<i>Plantago lanceolata</i>), ox-eye daisy (<i>Leucanthemum vulgare</i>).</p>
S1 – 2 FULL ACCESS	<p><u>Semi-Improved Grassland</u></p> <p>Area of land which appears to have been arable until recently, now bare ground with grasses, herbaceous and ruderal species including barren brome (<i>Bromus sterilis</i>), dandelion (<i>Taraxacum officinale</i> agg.), bristly ox-tongue (<i>Picris echinoides</i>), white clover (<i>Trifolium repens</i>), red clover (<i>Trifolium pratense</i>), teasel (<i>Dipsacus fullonum</i>) and field madder (<i>Rubia peregrina</i>). Towards the hedge (S1 – 3) the vegetation is a rank grass sward with ruderals; closer to the field to the west (S1 – 1) the vegetation is largely low growing, creeping herbaceous species and arable weeds to a height of ~10cm.</p>	<p>Barren brome (<i>Bromus sterilis</i>), dandelion (<i>Taraxacum officinale</i> agg.), bristly ox-tongue (<i>Picris echinoides</i>), ox-eye daisy (<i>Leucanthemum vulgare</i>), white clover (<i>Trifolium repens</i>), red clover (<i>Trifolium pratense</i>), ribwort plantain (<i>Plantago lanceolata</i>), broad leaved plantain (<i>Plantago major</i>), field forget-me-not (<i>Myosotis arvensis</i>), creeping thistle (<i>Cirsium arvense</i>), spear thistle (<i>Cirsium vulgare</i>), common mouse-ear (<i>Cerastium fontanum</i>), Colt's foot (<i>Tussilago farfara</i>), common ragwort (<i>Senecio jacobaea</i>), daisy (<i>Bellis perennis</i>), perennial rye grass (<i>Lolium perenne</i>), red fescue (<i>Festuca rubra</i>), field madder (<i>Rubia peregrina</i>), cow parsley (<i>Anthriscus sylvestris</i>), Cock's foot (<i>Dactylis glomerata</i>), common nettle (<i>Urtica dioica</i>), Dove's foot crane's-bill (<i>Geranium molle</i>), teasel (<i>Dipsacus fullonum</i>), field speedwell (<i>Veronica persica</i>), wood avens (<i>Geum urbanum</i>).</p>
S1 – 3 FULL ACCESS	<p><u>Defunct Species-Poor Hedgerow</u></p> <p>Unmanaged hawthorn (<i>Crataegus monogyna</i>) dominated hedge line, 7-12m tall with frequent blackthorn (<i>Prunus spinosa</i>), elder (<i>Sambucus nigra</i>) and rose (<i>Rosa</i> spp.), growing over the adjacent field (S1 – 2). Mostly bare ground and ruderals including ivy (<i>Hedera helix</i>), cow parsley (<i>Anthriscus sylvestris</i>) and burdock (<i>Arctium lappa</i>) beneath.</p>	<p>Elder (<i>Sambucus nigra</i>), hawthorn (<i>Crataegus monogyna</i>), ivy (<i>Hedera helix</i>), rose (<i>Rosa</i> spp.), crab apple (<i>Malus</i> spp.), cow parsley (<i>Anthriscus sylvestris</i>), garlic mustard (<i>Alliaria petiolata</i>), blackthorn (<i>Prunus spinosa</i>), white dead-nettle (<i>Lamium album</i>), burdock (<i>Arctium lappa</i>), ash (<i>Fraxinus excelsior</i>), sycamore (<i>Acer pseudoplatanus</i>), pedunculate oak (<i>Quercus robur</i>), wild carrot (<i>Daucus carota</i>).</p>

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TN No. /Access	Description	Species
	Large gaps in places, this hedgerow is not continuous and merges into the area of woodland (S1 – 13) towards the north where ash (<i>Fraxinus excelsior</i>), sycamore (<i>Acer pseudoplatanus</i>) and pedunculate oak (<i>Quercus robur</i>) were recorded.	
S1 – 4 FULL ACCESS	<p><u>Scattered Scrub With Semi-Improved Grassland</u></p> <p>Hawthorn (<i>Crataegus monogyna</i>) and rose (<i>Rosa</i> spp.) shrubs along an old track with elder (<i>Sambucus nigra</i>) and field maple (<i>Acer campestre</i>). The ground layer is largely grass including bent grass (<i>Agrostis</i> spp.), red fescue (<i>Festuca rubra</i>), Cock's foot (<i>Dactylis glomerata</i>) and soft brome (<i>Bromus hordeaceus</i>), with herbaceous species such as hop trefoil (<i>Trifolium campestre</i>), agrimony (<i>Agrimonia eupatoria</i>) and yarrow (<i>Achillea millefolium</i>) as well as ruderals including broadleaf dock (<i>Rumex obtusifolius</i>), common nettle (<i>Urtica dioica</i>) and bristly ox-tongue (<i>Picris echioides</i>). The shrubs are compact, to ~3m height. The track is raised slightly above the surrounding grassland.</p>	Rose (<i>Rosa</i> spp.), hawthorn (<i>Crataegus monogyna</i>), cow parsley (<i>Anthriscus sylvestris</i>), cleavers (<i>Galium aparine</i>), cow parsley (<i>Anthriscus sylvestris</i>), ribwort plantain (<i>Plantago lanceolata</i>), yarrow (<i>Achillea millefolium</i>), Cock's foot (<i>Dactylis glomerata</i>), red fescue (<i>Festuca rubra</i>), common ragwort (<i>Senecio jacobaea</i>), agrimony (<i>Agrimonia eupatoria</i>), broadleaf dock (<i>Rumex obtusifolius</i>), field maple (<i>Acer campestre</i>), elder (<i>Sambucus nigra</i>), hard rush (<i>Juncus inflexus</i>), dandelion (<i>Taraxacum officinale</i> agg.), bristly ox-tongue (<i>Picris echioides</i>), teasel (<i>Dipsacus fullonum</i>), bramble (<i>Rubus fruticosus</i> agg.), creeping thistle (<i>Cirsium arvense</i>), Yorkshire fog (<i>Holcus lanatus</i>), sycamore (<i>Acer pseudoplatanus</i>), hop trefoil (<i>Trifolium campestre</i>), soft brome (<i>Bromus hordeaceus</i>).
S1 – 5 FULL ACCESS	<p><u>Improved Grassland/Semi-Improved Grassland</u></p> <p>The sward to the south has an improved character, dominated by perennial rye grass (<i>Lolium perenne</i>) and white clover (<i>Trifolium repens</i>). The sward is longer and less improved towards the north, grasses including Yorkshire fog (<i>Holcus lanatus</i>), Cock's foot (<i>Dactylis glomerata</i>), sweet vernal grass (<i>Anthoxanthum odoratum</i>), tufted hair-grass (<i>Deschampsia cespitosa</i>) and red fescue (<i>Festuca rubra</i>) growing here to ~30cm with thatch and numerous herbaceous species including yarrow (<i>Achillea millefolium</i>), common mouse-ear (<i>Cerastium fontanum</i>), bulbous buttercup (<i>Ranunculus bulbosa</i>), Colt's foot (<i>Tussilago farfara</i>) and wood avens (<i>Geum urbanum</i>) as well as ruderals such as common nettle (<i>Urtica dioica</i>), broad-leaved willowherb (<i>Epilobium montanum</i>), spear thistle (<i>Cirsium vulgare</i>) and nipplewort (<i>Lapsana communis</i>). To the west, the sward is shorter with more bare ground and moss present. Ash (<i>Fraxinus excelsior</i>) and hawthorn (<i>Crataegus monogyna</i>) saplings were recorded within the sward to the west, suggesting encroachment of shrub from the adjacent broadleaf woodland (S1 - 8). There is a large mound of earth to the west of the pond (S1 - 28) dominated by ruderals.</p>	Cock's foot (<i>Dactylis glomerata</i>), Yorkshire fog (<i>Holcus lanatus</i>), false oat grass (<i>Arrhenatherum elatius</i>), tufted hair-grass (<i>Deschampsia cespitosa</i>), rose (<i>Rosa</i> spp.), sycamore (<i>Acer pseudoplatanus</i>), nipplewort (<i>Lapsana communis</i>), creeping thistle (<i>Cirsium arvense</i>), spear thistle (<i>Cirsium vulgare</i>), common nettle (<i>Urtica dioica</i>), broad-leaved willowherb (<i>Epilobium montanum</i>), yarrow (<i>Achillea millefolium</i>), red fescue (<i>Festuca rubra</i>), daisy (<i>Bellis perennis</i>), white clover (<i>Trifolium repens</i>), dandelion (<i>Taraxacum officinale</i> agg.), common mouse-ear (<i>Cerastium fontanum</i>), bulbous buttercup (<i>Ranunculus bulbosa</i>), cleavers (<i>Galium aparine</i>), bristly ox-tongue (<i>Picris echioides</i>), soft brome (<i>Bromus hordeaceus</i>), bramble (<i>Rubus fruticosus</i> agg.), hard rush (<i>Juncus inflexus</i>), Colt's foot (<i>Tussilago farfara</i>), meadow foxtail (<i>Alopecurus pratensis</i>), perennial rye grass (<i>Lolium perenne</i>), rose (<i>Rosa</i> spp.), bent grass (<i>Agrostis</i> spp.), ash (<i>Fraxinus excelsior</i>), hawthorn (<i>Crataegus monogyna</i>), common mouse-ear (<i>Cerastium fontanum</i>), wood avens (<i>Geum urbanum</i>).

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TN No. /Access	Description	Species
S1 – 6 FULL ACCESS	<p><u>Arable Land</u></p> <p>Arable land, not used at the time of survey, and overgrown with barren brome (<i>Bromus sterilis</i>) and black twitch (<i>Alopecurus myosuroides</i>) with herbaceous and ruderal species including groundsel (<i>Senecio vulgaris</i>), spear thistle (<i>Cirsium vulgare</i>), creeping thistle (<i>Cirsium arvense</i>), dandelion (<i>Taraxacum officinale</i> agg.) and broad-leaved willowherb (<i>Epilobium montanum</i>).</p>	<p>Barren brome (<i>Bromus sterilis</i>), black twitch (<i>Alopecurus myosuroides</i>), bristly ox-tongue (<i>Picris echioides</i>), groundsel (<i>Senecio vulgaris</i>), bulbous buttercup (<i>Ranunculus bulbosa</i>), broad-leaved willowherb (<i>Epilobium montanum</i>), common ragwort (<i>Senecio jacobaea</i>), field speedwell (<i>Veronica persica</i>), field forget-me-not (<i>Myosotis arvensis</i>), spear thistle (<i>Cirsium vulgare</i>), creeping thistle (<i>Cirsium arvense</i>), dandelion (<i>Taraxacum officinale</i> agg.), cut-leaved crane's-bill (<i>Geranium dissectum</i>), hedge mustard (<i>Sisymbrium officinale</i>).</p>
S1 – 7 FULL ACCESS	<p><u>Un-Improved Grassland</u></p> <p>Grassland which appears unimproved, longer sward with thatch present to the east and a shorter sward (~10cm) to the west. Grass species include bent grass (<i>Agrostis</i> spp.), Cock's foot (<i>Dactylis glomerata</i>), barren brome (<i>Bromus sterilis</i>), false oat grass (<i>Arrhenatherum elatius</i>), Yorkshire fog (<i>Holcus lanatus</i>) and red fescue (<i>Festuca rubra</i>) with frequent herbaceous species including wild carrot (<i>Daucus carota</i>), common mouse-ear (<i>Cerastium fontanum</i>), bird's foot trefoil (<i>Lotus corniculatus</i>), hop trefoil (<i>Trifolium campestre</i>), field speedwell (<i>Veronica persica</i>) and common vetch (<i>Vicia sativa</i>) as well as ruderals such as hogweed (<i>Hypericum sphondylium</i>), broadleaf dock (<i>Rumex obtusifolius</i>) and cow parsley (<i>Anthriscus sylvestris</i>). There are damper patches where rush (<i>Juncus</i> spp.) and sedges such as common sedge (<i>Carex nigra</i>) and glaucous sedge (<i>Carex flacca</i>) were recorded.</p> <p>Skylarks and meadow pipit were seen and this field would provide good breeding habitat for ground-nesting birds.</p>	<p>Ribwort plantain (<i>Plantago lanceolata</i>), white clover (<i>Trifolium repens</i>), wild carrot (<i>Daucus carota</i>), dandelion (<i>Taraxacum officinale</i> agg.), bristly ox-tongue (<i>Picris echioides</i>), common mouse-ear (<i>Cerastium fontanum</i>), broad leaved plantain (<i>Plantago major</i>), bent grass (<i>Agrostis</i> spp.), daisy (<i>Bellis perennis</i>), bird's foot trefoil (<i>Lotus corniculatus</i>), hawkweed (<i>Hieracium</i> spp.), willow (<i>Salix</i> spp.), Cock's foot (<i>Dactylis glomerata</i>), ash (<i>Fraxinus excelsior</i>), soft brome (<i>Bromus hordeaceus</i>), spear thistle (<i>Cirsium vulgare</i>), creeping thistle (<i>Cirsium arvense</i>), false oat grass (<i>Arrhenatherum elatius</i>), Yorkshire fog (<i>Holcus lanatus</i>), hop trefoil (<i>Trifolium campestre</i>), ground ivy (<i>Glechoma hederacea</i>), hogweed (<i>Hypericum sphondylium</i>), broadleaf dock (<i>Rumex obtusifolius</i>), cow parsley (<i>Anthriscus sylvestris</i>), teasel (<i>Dipsacus fullonum</i>), wood small-read (<i>Calamagrostis epigejos</i>), common ragwort (<i>Senecio jacobaea</i>), rose (<i>Rosa</i> spp.), white dead-nettle (<i>Lamium album</i>), tufted hair-grass (<i>Deschampsia cespitosa</i>), field speedwell (<i>Veronica persica</i>), field forget-me-not (<i>Myosotis arvensis</i>), false brome (<i>Brachypodium sylvaticum</i>), meadow buttercup (<i>Ranunculus acris</i>), hard rush (<i>Juncus inflexus</i>), common sedge (<i>Carex nigra</i>), raspberry (<i>Rubus idaeus</i>), glaucous sedge (<i>Carex flacca</i>), common vetch (<i>Vicia sativa</i>), common valerian (<i>Valeriana officinalis</i>).</p>
S1 – 8 FULL ACCESS	<p><u>Tall Ruderal, Herb And Fern</u></p> <p>Common nettle (<i>Urtica dioica</i>) dominated scrub with cow parsley (<i>Anthriscus sylvestris</i>), spear thistle (<i>Cirsium vulgare</i>) and creeping thistle (<i>Cirsium arvense</i>) on a mound within an arable field. Semi-mature elder (<i>Sambucus nigra</i>) shrubs with rose (<i>Rosa</i> spp.) are also present.</p>	<p>Creeping thistle (<i>Cirsium arvense</i>), spear thistle (<i>Cirsium vulgare</i>), common nettle (<i>Urtica dioica</i>), cow parsley (<i>Anthriscus sylvestris</i>), hogweed (<i>Hypericum sphondylium</i>), bristly ox-tongue (<i>Picris echioides</i>), false oat grass (<i>Arrhenatherum elatius</i>), Yorkshire fog (<i>Holcus lanatus</i>), Cock's foot (<i>Dactylis glomerata</i>), elder (<i>Sambucus nigra</i>), rose (<i>Rosa</i> spp.), bramble (<i>Rubus fruticosus</i> agg.), hedge mustard (<i>Sisymbrium officinale</i>).</p>

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TN No. /Access	Description	Species
S1 – 9 FULL ACCESS	<p><u>Semi-Improved Grassland</u></p> <p>Semi-improved grassland with patches of ruderal vegetation and herbaceous species throughout. Grasses include perennial rye grass (<i>Lolium perenne</i>), red fescue (<i>Festuca rubra</i>), bent grass (<i>Agrostis</i> spp.) and Cock's foot (<i>Dactylis glomerata</i>) with herbaceous species including wild carrot (<i>Daucus carota</i>), common vetch (<i>Vicia sativa</i>), hawkweed (<i>Hieracium</i> spp.) and yarrow (<i>Achillea millefolium</i>). There are patches of hard rush (<i>Juncus inflexus</i>) present with glaucous sedge (<i>Carex flacca</i>). The sward is largely low with no evidence of management or grazing, however the sward is longer to the north-east.</p> <p>Skylarks and meadow pipit were seen and this field would provide good breeding habitat for ground-nesting birds.</p>	<p>White clover (<i>Trifolium repens</i>), common vetch (<i>Vicia sativa</i>), daisy (<i>Bellis perennis</i>), ribwort plantain (<i>Plantago lanceolata</i>), perennial rye grass (<i>Lolium perenne</i>), red fescue (<i>Festuca rubra</i>), common ragwort (<i>Senecio jacobaea</i>), bent grass (<i>Agrostis</i> spp.), Cock's foot (<i>Dactylis glomerata</i>), hawkweed (<i>Hieracium</i> spp.), yarrow (<i>Achillea millefolium</i>), creeping cinquefoil (<i>Potentilla reptans</i>), soft brome (<i>Bromus hordeaceus</i>), common mouse-ear (<i>Cerastium fontanum</i>), dandelion (<i>Taraxacum officinale</i> agg.), rose (<i>Rosa</i> spp.), broadleaf dock (<i>Rumex obtusifolius</i>), hop trefoil (<i>Trifolium campestre</i>), spear thistle (<i>Cirsium vulgare</i>), creeping thistle (<i>Cirsium arvense</i>), false brome (<i>Brachypodium sylvaticum</i>), black knapweed (<i>Centaurea nigra</i>), wild carrot (<i>Daucus carota</i>), bulbous buttercup (<i>Ranunculus bulbosa</i>), bramble (<i>Rubus fruticosus</i> agg.), butterfly bush (<i>Buddleia davidii</i>), honeysuckle (<i>Lonicera</i> spp.), hard rush (<i>Juncus inflexus</i>), glaucous sedge (<i>Carex flacca</i>), false oat grass (<i>Arrhenatherum elatius</i>), broad-leaved willowherb (<i>Epilobium montanum</i>).</p>
S1 – 10 FULL ACCESS	<p><u>Intact Species-Poor Hedgerow With Trees</u></p> <p>Tall, unmanaged hedgerow to ~12m height and 4m wide with a road on the eastern side. Blackthorn (<i>Prunus spinosa</i>) and hawthorn (<i>Crataegus monogyna</i>) dominate with elm (<i>Ulmus</i> spp.) and sycamore (<i>Acer pseudoplatanus</i>). Suckering of blackthorn into the field on the western side. Ruderal and grassland species including cleavers (<i>Galium aparine</i>), ivy (<i>Hedera helix</i>), common nettle (<i>Urtica dioica</i>) and cow parsley (<i>Anthriscus sylvestris</i>) were recorded beneath.</p>	<p>Blackthorn (<i>Prunus spinosa</i>), sycamore (<i>Acer pseudoplatanus</i>), hawthorn (<i>Crataegus monogyna</i>), Cock's foot (<i>Dactylis glomerata</i>), elm (<i>Ulmus</i> spp.), ivy (<i>Hedera helix</i>), cleavers (<i>Galium aparine</i>), common nettle (<i>Urtica dioica</i>), cow parsley (<i>Anthriscus sylvestris</i>), ash (<i>Fraxinus excelsior</i>), bindweed (<i>Convolvulus</i> spp.).</p>
S1 – 11 FULL ACCESS	<p><u>Defunct Species-Poor Hedgerow</u></p> <p>Hawthorn (<i>Crataegus monogyna</i>) dominated hedgerow with blackthorn (<i>Prunus spinosa</i>) and elder (<i>Sambucus nigra</i>). A dry ditch runs along the site side. suckering of blackthorn into the field. The ground layer is largely ruderal with species including bramble (<i>Rubus fruticosus</i> agg.), cow parsley (<i>Anthriscus sylvestris</i>) and common nettle (<i>Urtica dioica</i>). There are gaps in places and the hedge is not maintained, to a height of ~4m and a width of ~2m. Two small, standard ash (<i>Fraxinus excelsior</i>) recorded to the east, however, these are little more than saplings.</p>	<p>Hawthorn (<i>Crataegus monogyna</i>), ash (<i>Fraxinus excelsior</i>), bramble (<i>Rubus fruticosus</i> agg.), cow parsley (<i>Anthriscus sylvestris</i>), common nettle (<i>Urtica dioica</i>), hogweed (<i>Hypericum sphondylium</i>), rose (<i>Rosa</i> spp.), ivy (<i>Hedera helix</i>), elder (<i>Sambucus nigra</i>), blackthorn (<i>Prunus spinosa</i>).</p>

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TN No. /Access	Description	Species
S1 – 12 FULL ACCESS	<p><u>Defunct Species-Poor Hedgerow</u></p> <p>Newly planted hawthorn (<i>Crataegus monogyna</i>) hedgerow with herbaceous species below.</p>	<p>Hawthorn (<i>Crataegus monogyna</i>), wild carrot (<i>Daucus carota</i>), ribwort plantain (<i>Plantago lanceolata</i>), soft brome (<i>Bromus hordeaceus</i>), dandelion (<i>Taraxacum officinale</i> agg.), cow parsley (<i>Anthriscus sylvestris</i>), broadleaf dock (<i>Rumex obtusifolius</i>), common vetch (<i>Vicia sativa</i>), common mouse-ear (<i>Cerastium fontanum</i>).</p>
S1 – 13 FULL ACCESS	<p><u>Semi-Natural Broadleaf Woodland</u></p> <p>An area of woodland, dominated by mature hawthorn (<i>Crataegus monogyna</i>) trees with ash (<i>Fraxinus excelsior</i>), elder (<i>Sambucus nigra</i>), pedunculate oak (<i>Quercus robur</i>), sycamore (<i>Acer pseudoplatanus</i>) and rare willow (<i>Salix</i> spp.). The woodland has probably developed as secondary woodland through natural succession. Many of the trees are clad with ivy (<i>Hedera helix</i>) towards the north. The ground layer is largely bare with woodland species, especially towards the edges, including wood avens (<i>Geum urbanum</i>), herb robert (<i>Geranium robertianum</i>), Lords and Ladies (<i>Arum maculatum</i>) and a small patch of dog's mercury (<i>Mercurialis perennis</i>). The canopy is relatively low, to ~10m with hawthorn, elder (<i>Sambucus nigra</i>) and box (<i>Buxus sempervirens</i>). Moss is present in the ground layer, along with large quantities of young deadwood. A strip of younger hawthorn is present along the south-west edge of this woodland. The area appears to be used by local children and there is evidence of fly-tipping with piles of rubble present.</p>	<p>Willow (<i>Salix</i> spp.), soft brome (<i>Bromus hordeaceus</i>), ivy (<i>Hedera helix</i>), ash (<i>Fraxinus excelsior</i>), herb robert (<i>Geranium robertianum</i>), wood avens (<i>Geum urbanum</i>), Lords and Ladies (<i>Arum maculatum</i>), rose (<i>Rosa</i> spp.), sycamore (<i>Acer pseudoplatanus</i>), pedunculate oak (<i>Quercus robur</i>), hawthorn (<i>Crataegus monogyna</i>), common nettle (<i>Urtica dioica</i>), broadleaf dock (<i>Rumex obtusifolius</i>), field speedwell (<i>Veronica persica</i>), hogweed (<i>Hypericum sphyndylium</i>), elder (<i>Sambucus nigra</i>), cleavers (<i>Galium aparine</i>), honeysuckle (<i>Lonicera</i> spp.), lesser celandine (<i>Ranunculus ficaria</i>), dog's mercury (<i>Mercurialis perennis</i>), garlic mustard (<i>Alliaria petiolata</i>), bindweed (<i>Convolvulus</i> spp.), rose (<i>Rosa</i> spp.), burdock (<i>Arctium lappa</i>), box (<i>Buxus sempervirens</i>).</p>
S1 – 14 FULL ACCESS	<p><u>Semi-Improved Grassland With Scattered Scrub</u></p> <p>This is an area of very low semi-improved grassland with patches of hawthorn (<i>Crataegus monogyna</i>) scrub which appear to be maintained to control their spread, limiting them to small patches with open grassland in between. Grassland species include Yorkshire fog (<i>Holcus lanatus</i>), soft brome (<i>Bromus hordeaceus</i>) and red fescue (<i>Festuca rubra</i>) with herbaceous species including daisy (<i>Bellis perennis</i>), dandelion (<i>Taraxacum officinale</i> agg.), creeping cinquefoil (<i>Potentilla reptans</i>), yarrow (<i>Achillea millefolium</i>), agrimony (<i>Agrimonia eupatoria</i>) and glaucous sedge (<i>Carex flacca</i>). Ruderal species such as bristly ox-tongue (<i>Picris echioides</i>), teasel (<i>Dipsacus fullonum</i>) and rose (<i>Rosa</i> spp.) associated with the scrub. Hawthorn shoots present in places in the grassland sward.</p>	<p>Yorkshire fog (<i>Holcus lanatus</i>), common ragwort (<i>Senecio jacobaea</i>), bramble (<i>Rubus fruticosus</i> agg.), broad-leaved willowherb (<i>Epilobium montanum</i>), spear thistle (<i>Cirsium vulgare</i>), bristly ox-tongue (<i>Picris echioides</i>), daisy (<i>Bellis perennis</i>), dandelion (<i>Taraxacum officinale</i> agg.), horsetail (<i>Equisetum</i> spp.), teasel (<i>Dipsacus fullonum</i>), hawthorn (<i>Crataegus monogyna</i>), rose (<i>Rosa</i> spp.), soft brome (<i>Bromus hordeaceus</i>), creeping cinquefoil (<i>Potentilla reptans</i>), creeping buttercup (<i>Ranunculus repens</i>), bird's foot trefoil (<i>Lotus corniculatus</i>), meadow grass (<i>Poa</i> spp.), agrimony (<i>Agrimonia eupatoria</i>), field speedwell (<i>Veronica persica</i>), glaucous sedge (<i>Carex flacca</i>), hawkweed (<i>Hieracium</i> spp.), yarrow (<i>Achillea millefolium</i>), red fescue (<i>Festuca rubra</i>), black knapweed (<i>Centaurea nigra</i>).</p>

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TN No. /Access	Description	Species
S1 – 15 FULL ACCESS	<p><u>Bare Ground With Tall Ruderal Herb And Fern</u></p> <p>There are large areas of bare ground with ruderal species growing over disturbed ground. patches of scrub including willow (<i>Salix</i> spp.), butterfly bush (<i>Buddleia davidii</i>), hawthorn (<i>Crataegus monogyna</i>) and rose (<i>Rosa</i> spp.) with one damp area (S1 – 16) present. Ruderal species include meadow buttercup (<i>Ranunculus acris</i>), spear thistle (<i>Cirsium vulgare</i>), creeping thistle (<i>Cirsium arvense</i>), wood avens (<i>Geum urbanum</i>), bramble (<i>Rubus fruticosus</i> agg.), Cock's foot (<i>Dactylis glomerata</i>), burdock (<i>Arctium lappa</i>), horsetail (<i>Equisetum</i> spp.) and nipplewort (<i>Lapsana communis</i>). Other herbaceous species recorded include Colt's foot (<i>Tussilago farfara</i>), wild carrot (<i>Daucus carota</i>), cowslip (<i>Primula veris</i>), herb robert (<i>Geranium robertianum</i>), perforate St John's wort (<i>Hypericum perforatum</i>) and wood avens (<i>Geum urbanum</i>). There is a large bank of earth, covered with largely ruderal vegetation between this area and the field to the north (S1 – 9).</p> <p>Surrounding this area of the site was new development of housing and there appeared to be construction work beginning at the eastern end of this area at the time of survey.</p>	<p>Meadow buttercup (<i>Ranunculus acris</i>), field speedwell (<i>Veronica persica</i>), willow (<i>Salix</i> spp.), ribwort plantain (<i>Plantago lanceolata</i>), hard rush (<i>Juncus inflexus</i>), horsetail (<i>Equisetum</i> spp.), creeping thistle (<i>Cirsium arvense</i>), spear thistle (<i>Cirsium vulgare</i>), black knapweed (<i>Centaurea nigra</i>), soft brome (<i>Bromus hordeaceus</i>), broad leaved plantain (<i>Plantago major</i>), common ragwort (<i>Senecio jacobaea</i>), bramble (<i>Rubus fruticosus</i> agg.), butterfly bush (<i>Buddleia davidii</i>), creeping cinquefoil (<i>Potentilla reptans</i>), wood avens (<i>Geum urbanum</i>), Cock's foot (<i>Dactylis glomerata</i>), burdock (<i>Arctium lappa</i>), creeping buttercup (<i>Ranunculus repens</i>), white clover (<i>Trifolium repens</i>), perforate St John's wort (<i>Hypericum perforatum</i>), common chickweed (<i>Stellaria media</i>), herb robert (<i>Geranium robertianum</i>), Colt's foot (<i>Tussilago farfara</i>), nipplewort (<i>Lapsana communis</i>), wild carrot (<i>Daucus carota</i>), bent grass (<i>Agrostis</i> spp.), Cock's foot (<i>Dactylis glomerata</i>), Yorkshire fog (<i>Holcus lanatus</i>), false oat grass (<i>Arrhenatherum elatius</i>), red fescue (<i>Festuca rubra</i>), daisy (<i>Bellis perennis</i>), rose (<i>Rosa</i> spp.), hawkweed (<i>Hieracium</i> spp.), wood small-reed (<i>Calamagrostis epigejos</i>), common mouse-ear (<i>Cerastium fontanum</i>), moss, hawthorn (<i>Crataegus monogyna</i>), tufted hair-grass (<i>Deschampsia cespitosa</i>), broadleaf dock (<i>Rumex obtusifolius</i>), cowslip (<i>Primula veris</i>), red clover (<i>Trifolium pratense</i>), bird's foot trefoil (<i>Lotus corniculatus</i>).</p>
S1 – 16 FULL ACCESS	<p><u>Open Water</u></p> <p>Area of water which is likely to be seasonally damp. However, there was water present at the time of survey in May after a period of little rain. The water is clear and shallow, to ~10cm deep aquatic invertebrates present. Aquatic and marginal vegetation recorded includes sweet grass (<i>Glyceria</i> spp.), iris (<i>Iris</i> spp), hard rush (<i>Juncus inflexus</i>) and pondweed (<i>Potamogeton</i> spp.).</p> <p>This pond has low potential to provide breeding habitat for great crested newt (<i>Triturus cristatus</i>).</p>	<p>Sweet grass (<i>Glyceria</i> spp.), iris (<i>Iris</i> spp.), hard rush (<i>Juncus inflexus</i>), pondweed (<i>Potamogeton</i> spp.).</p>
S1 – 17 FULL ACCESS	<p><u>Semi-Improved Grassland</u></p> <p>Short sward semi-improved grassland with abundant herbaceous species and bare ground present. Grasses include red fescue (<i>Festuca rubra</i>), Cock's foot (<i>Dactylis glomerata</i>) and</p>	<p>Dandelion (<i>Taraxacum officinale</i> agg.), common ragwort (<i>Senecio jacobaea</i>), bristly ox-tongue (<i>Picris echioides</i>), red fescue (<i>Festuca rubra</i>), Yorkshire fog (<i>Holcus lanatus</i>), Cock's foot (<i>Dactylis glomerata</i>), broad leaved plantain (<i>Plantago major</i>), rose (<i>Rosa</i> spp.), common</p>

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TN No. /Access	Description	Species
	perennial rye grass (<i>Lolium perenne</i>) with herbaceous species including bristly ox-tongue (<i>Picris echioides</i>), common ragwort (<i>Senecio jacobaea</i>), dandelion (<i>Taraxacum officinale</i> agg.) and field speedwell (<i>Veronica persica</i>). There is little ruderal vegetation present. The field is more improved towards the southwest corner where white clover (<i>Trifolium repens</i>) is locally dominant.	mouse-ear (<i>Cerastium fontanum</i>), moss, field speedwell (<i>Veronica persica</i>), white clover (<i>Trifolium repens</i>), perennial rye grass (<i>Lolium perenne</i>).
S1 – 18 FAR DISTANCE	<p><u>Improved Grassland</u></p> <p>No landowner access was gained to this area; grassland was viewed from a distance of 20-30m.</p> <p>The grassland was horse grazed with a short sward and is likely to be improved.</p>	
S1 – 19 FULL ACCESS	<p><u>Intact Species-Poor Hedgerow With Trees</u></p> <p>Hawthorn (<i>Crataegus monogyna</i>) and privet (<i>Ligustrum</i> spp.) dominated hedgerow with rose (<i>Rosa</i> spp.), bramble (<i>Rubus fruticosus</i> agg.) and ivy (<i>Hedera helix</i>) growing throughout. The ground layer is largely bare ground with ivy and ruderals including cleavers (<i>Galium aparine</i>), common nettle (<i>Urtica dioica</i>) as well as lesser celandine (<i>Ranunculus ficaria</i>) and ground ivy (<i>Glechoma hederacea</i>). The hedge is cut to ~3m height and 2m wide.</p>	Privet (<i>Ligustrum</i> spp.), hawthorn (<i>Crataegus monogyna</i>), midland hawthorn (<i>Crataegus laevigata</i>), ivy (<i>Hedera helix</i>), common nettle (<i>Urtica dioica</i>), bramble (<i>Rubus fruticosus</i> agg.), ash (<i>Fraxinus excelsior</i>), rose (<i>Rosa</i> spp.), ground ivy (<i>Glechoma hederacea</i>), cleavers (<i>Galium aparine</i>), lesser celandine (<i>Ranunculus ficaria</i>), elder (<i>Sambucus nigra</i>), horse chestnut (<i>Aesculus hippocastanum</i>).
S1 – 20 FAR DISTANCE	<p><u>Scattered Scrub</u></p> <p>No hedge present, small scattered hawthorn (<i>Crataegus monogyna</i>) shrubs present.</p>	Hawthorn (<i>Crataegus monogyna</i>).
S1 – 21 FULL ACCESS	<p><u>Defunct Species-Rich Hedgerow With Trees</u></p> <p>Generally unmanaged hedgerow to 2 – 3m in height and 3m in width with occasional gaps. Hawthorn (<i>Crataegus monogyna</i>) is abundant throughout with frequent blackthorn (<i>Prunus spinosa</i>) and dog rose (<i>Rosa canina</i>) as well as occasional wild privet (<i>Ligustrum vulgare</i>), elder (<i>Sambucus nigra</i>), hazel (<i>Corylus avellana</i>) and ash (<i>Fraxinus excelsior</i>).</p> <p>The hedgerow understorey is dominated by ruderal species including cow parsley (<i>Anthriscus sylvestris</i>), white dead-nettle (<i>Lamium album</i>), hogweed (<i>Hypericum sphenodylium</i>) and barren brome (<i>Anisantha sterilis</i>).</p>	Hawthorn (<i>Crataegus monogyna</i>), blackthorn (<i>Prunus spinosa</i>), wild privet (<i>Ligustrum vulgare</i>), elder (<i>Sambucus nigra</i>), hazel (<i>Corylus avellana</i>), ash (<i>Fraxinus excelsior</i>), dog rose (<i>Rosa canina</i>), cow parsley (<i>Anthriscus sylvestris</i>), burdock (<i>Arctium lappa</i>), red dead-nettle (<i>Lamium purpureum</i>), hogweed (<i>Hypericum sphenodylium</i>), field speedwell (<i>Veronica persica</i>).

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TN No. /Access	Description	Species
S1 – 22 FULL ACCESS	<p><u>Bare Ground With Short Perennial Vegetation</u></p> <p>Small rectangular area of ‘waste ground’ with hard standing to the south and appears to be a redundant development site. Short perennial vegetation dominates to the north with a variety of typical species including white clover (<i>Trifolium repens</i>), red clover (<i>Trifolium pratense</i>), ribwort plantain (<i>Plantago lanceolata</i>), greater plantain (<i>Plantago major</i>), dandelion (<i>Taraxacum officinale</i> agg.) and daisy (<i>Bellis perennis</i>). Silver birch (<i>Betula pendula</i>) and poplar (<i>Populus</i> spp.) saplings are encroaching throughout the vegetation.</p> <p>Mounds of rubble and waste are present and are overgrown with tall ruderal herbs such as teasel (<i>Dipsacus fullonum</i>), common nettle (<i>Urtica dioica</i>), garlic mustard (<i>Alliaria petiolata</i>) and rosebay willowherb (<i>Epilobium angustifolium</i>).</p> <p>The habitat has the potential to support reptile species, particularly common lizard (<i>Lacerta vivipara</i>).</p>	<p>Red clover (<i>Trifolium pratense</i>), white clover (<i>Trifolium repens</i>), ribwort plantain (<i>Plantago lanceolata</i>), daisy (<i>Bellis perennis</i>), greater plantain (<i>Plantago major</i>), dandelion (<i>Taraxacum officinale</i> agg.), teasel (<i>Dipsacus fullonum</i>), common vetch (<i>Vicia sativa</i>), creeping thistle (<i>Cirsium arvense</i>), spear thistle (<i>Cirsium vulgare</i>), white dead-nettle (<i>Lamium album</i>), common nettle (<i>Urtica dioica</i>), Cock’s foot (<i>Dactylis glomerata</i>), herb Robert (<i>Geranium robertianum</i>), silver birch (<i>Betula pendula</i>), poplar (<i>Populus</i> spp.).</p>
S1 – 23 FULL ACCESS	<p><u>Intact Species-Poor Hedgerow With Trees</u></p> <p>Short tree line to a height of 15m with semi-mature poplar (<i>Populus</i> spp.), Leyland cypress (<i>X Cupressocyparis leylandii</i>), silver birch (<i>Betula pendula</i>), hornbeam (<i>Carpinus betulus</i>) and whitebeam (<i>Sorbus aria</i>).</p>	
S1 – 24 FULL ACCESS	<p><u>Defunct Species-Poor Hedgerow</u></p> <p>Hawthorn (<i>Crataegus monogyna</i>) and blackthorn (<i>Prunus spinosa</i>) hedgerow with dog rose (<i>Rosa canina</i>) and elder (<i>Sambucus nigra</i>) and occasional wide gaps. Occasionally managed to a height and width of 2m. Ruderal species dominate the understorey and include common nettle (<i>Urtica dioica</i>) and cow parsley (<i>Anthriscus sylvestris</i>).</p>	<p>Hawthorn (<i>Crataegus monogyna</i>), blackthorn (<i>Prunus spinosa</i>), ash (<i>Fraxinus excelsior</i>), dog rose (<i>Rosa canina</i>), elder (<i>Sambucus nigra</i>), common nettle (<i>Urtica dioica</i>), cow parsley (<i>Anthriscus sylvestris</i>), white dead-nettle (<i>Lamium album</i>), bramble (<i>Rubus fruticosus</i> agg.), ivy (<i>Hedera helix</i>).</p>
S1 – 25 FULL ACCESS	<p><u>Plantation Broadleaf Woodland</u></p> <p>Extensive plantation woodland on an area of former quarry works, probably planted within the last 100-150 years. The woodland floor has distinct ‘hills and holes’ the previous use as a quarry which creates a varied topography throughout.</p> <p>Ash (<i>Fraxinus excelsior</i>) is abundant within the woodland canopy with frequent sycamore</p>	<p>Ash (<i>Fraxinus excelsior</i>), sycamore (<i>Acer pseudoplatanus</i>), goat willow (<i>Salix caprea</i>), yew (<i>Taxus baccata</i>), larch (<i>Larix</i> spp.), poplar (<i>Populus</i> spp.), beech (<i>Fagus sylvatica</i>), elder (<i>Sambucus nigra</i>), hawthorn (<i>Crataegus monogyna</i>), holly (<i>Ilex aquifolium</i>), wild privet (<i>Ligustrum vulgare</i>), dog rose (<i>Rosa canina</i>), blackthorn (<i>Prunus spinosa</i>), garlic mustard (<i>Alliaria petiolata</i>), herb Robert (<i>Geranium robertianum</i>), cow parsley (<i>Anthriscus sylvestris</i>), ivy (<i>Hedera helix</i>), cleavers (<i>Galium</i></p>

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TN No. /Access	Description	Species
	<p>(<i>Acer pseudoplatanus</i>) and occasional plantings of willow goat willow (<i>Salix caprea</i>), larch (<i>Larix</i> spp.) and poplar (<i>Populus</i> spp.), particularly near the woodland edges.</p> <p>The woodland canopy is open in parts mostly due to the die back of larch (<i>Larix</i> spp.) trees. The shrub layer is variable throughout the woodland, with areas of dense and scattered hawthorn (<i>Crataegus monogyna</i>) and elder (<i>Sambucus nigra</i>) intermixed with occasional holly (<i>Ilex aquifolium</i>), elder (<i>Sambucus nigra</i>), wild privet (<i>Ligustrum vulgare</i>) and dog rose (<i>Rosa canina</i>).</p> <p>The majority of the field layer is dominated by bare ground with ruderal species such as cow parsley (<i>Anthriscus sylvestris</i>), common nettle (<i>Urtica dioica</i>) and cleavers (<i>Galium aparine</i>) with locally frequent areas of wood avens (<i>Geum urbanum</i>) and Lords and Ladies (<i>Arum maculatum</i>).</p> <p>A distinct woodland edge is present, particularly to the east, where natural succession by shrubs into tall ruderal vegetation has created a diverse edge habitat in terms of both age and structure.</p> <p>Although botanically poor, the majority of the woodland is similarly diverse in age and structure throughout the woodland layers, which is enhanced by the 'hills and holes' landscape of the woodland floor.</p>	<p>aparine), wood avens (<i>Geum urbanum</i>), Lords and Ladies (<i>Arum maculatum</i>), common nettle (<i>Urtica dioica</i>), common chickweed (<i>Stellaria media</i>), burdock (<i>Arctium lappa</i>), common chickweed (<i>Stellaria media</i>).</p>
<p>S1 – 26 FULL ACCESS</p>	<p><u>Defunct Species-Rich Hedgerow With Trees</u></p> <p>High hedgerow to 4-5m in height on road banking. An abundance of hawthorn (<i>Crataegus monogyna</i>) is present with occasional to frequent ash (<i>Fraxinus excelsior</i>), hazel (<i>Corylus avellana</i>), elm (<i>Ulmus</i> spp.), wild privet (<i>Ligustrum vulgare</i>), dog rose (<i>Rosa canina</i>) and blackthorn (<i>Prunus spinosa</i>). Occasional semi-mature ash and elm trees are present along the hedgerow.</p> <p>The hedgerow understorey is dominated by common nettle (<i>Urtica dioica</i>).</p>	<p>Hawthorn (<i>Crataegus monogyna</i>), wild privet (<i>Ligustrum vulgare</i>), dog rose (<i>Rosa canina</i>), blackthorn (<i>Prunus spinosa</i>), hazel (<i>Corylus avellana</i>), ash (<i>Fraxinus excelsior</i>), elm (<i>Ulmus</i> spp.), Yorkshire fog (<i>Holcus lanatus</i>), common nettle (<i>Urtica dioica</i>).</p>
<p>S1 – 27 FULL ACCESS</p>	<p><u>Open Water</u></p> <p>Roughly circular pond approximately 30-40sqm in area. The pond has been created within recent years and is known to support great crested newts (<i>Triturus cristatus</i>). There is an abundance of the floating aquatic plant broad leaved pondweed (<i>Potamogeton</i></p>	

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TN No. /Access	Description	Species
	<p>natans) with the emergent bulrush (<i>Typha latifolia</i>) covering 30-40% of the waters' surface. The pond was too heavily vegetated to give an indication of its depth.</p> <p>The banks of the pond rise to 2-5m at an aspect of 30-40°. A thin band of rush (<i>Juncus</i> spp.) is present around the waters' edge. The banks of the pond support abundant bare ground with a developing floral community typical of disturbed ground including spear thistle (<i>Cirsium vulgare</i>), creeping thistle (<i>Cirsium arvense</i>), teasel (<i>Dipsacus fullonum</i>), red clover (<i>Trifolium pratense</i>), dandelion (<i>Taraxacum officinale</i> agg.) and daisy (<i>Bellis perennis</i>).</p>	
<p>S1 – 28 FULL ACCESS</p>	<p><u>Open Water</u></p> <p>Roughly circular pond approximately 30-40sqm in area. The pond has been created within recent years and is known to support great crested newts (<i>Triturus cristatus</i>). Frequent broad leaved pondweed (<i>Potamogeton natans</i>) is present on the waters' surface. A 2-3m band of soft rush (<i>Juncus effusus</i>) and hard rush (<i>Juncus inflexus</i>) is present around the pond margins with locally abundant great willowherb (<i>Epilobium hirsutum</i>) and occasional water plantain (<i>Alisma plantago-aquatica</i>), cuckoo flower (<i>Cardamine pratensis</i>) and creeping buttercup (<i>Ranunculus repens</i>).</p> <p>The banks of the pond are shallow, rising to 0.5-1m at an aspect of 30°. Semi-improved grassland is present on the banks with Yorkshire fog (<i>Holcus lanatus</i>), red fescue (<i>Festuca rubra</i>), spear thistle (<i>Cirsium vulgare</i>), white clover (<i>Trifolium repens</i>), ribwort plantain (<i>Plantago lanceolata</i>), greater plantain (<i>Plantago major</i>), creeping buttercup (<i>Ranunculus repens</i>) and common mouse-ear (<i>Cerastium fontanum</i>).</p> <p>A great crested newt was seen in the pond at the time of survey.</p>	
<p>S1 – 29 FULL ACCESS</p>	<p><u>Bare ground</u></p> <p>Part of the current quarry workings an area of compacted clay prevails with a high terraced bank along the western and eastern boundary. Occasional areas of rubble and stone are present.</p> <p>Occasional and scattered colt's foot (<i>Tussilago farfara</i>), teasel (<i>Dipsacus fullonum</i>) and ribwort plantain (<i>Plantago lanceolata</i>) is present throughout the bare ground.</p>	

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TN No. /Access	Description	Species
S1 – 30 FULL ACCESS	<p><u>Open Water</u></p> <p>Roughly circular pond approximately 30-40sqm in area. The pond has been created within recent years and is known to support great crested newts (<i>Triturus cristatus</i>). Locally abundant stands of bulrush (<i>Typha latifolia</i>) and common reed (<i>Phragmites australis</i>) are present at the pond margins with occasional broad leaved pondweed (<i>Potamogeton natans</i>). Clumps of rush (<i>Juncus</i> spp.) form a thin and scattered band around the pond margins. The banks of the pond are shallow, rising to a height of 0.3m.</p> <p>Semi-improved grassland is present on the banks with Yorkshire fog (<i>Holcus lanatus</i>), red fescue (<i>Festuca rubra</i>), spear thistle (<i>Cirsium vulgare</i>), white clover (<i>Trifolium repens</i>), ribwort plantain (<i>Plantago lanceolata</i>), greater plantain (<i>Plantago major</i>), creeping buttercup (<i>Ranunculus repens</i>) and common mouse-ear (<i>Cerastium fontanum</i>).</p>	
S1 – 31 FULL ACCESS	<p><u>Defunct Species-Poor Hedgerow</u></p> <p>Hawthorn (<i>Crataegus monogyna</i>) dominated hedgerow with blackthorn (<i>Prunus spinosa</i>) and elder (<i>Sambucus nigra</i>) with occasional wide gaps and generally unmanaged to a height of 2-3.5m and width of 3-4m. Ruderal species dominate the understorey and include common nettle (<i>Urtica dioica</i>), cleavers (<i>Galium aparine</i>) and cow parsley (<i>Anthriscus sylvestris</i>).</p>	Hawthorn (<i>Crataegus monogyna</i>), blackthorn (<i>Prunus spinosa</i>), elder (<i>Sambucus nigra</i>), common nettle (<i>Urtica dioica</i>), cleavers (<i>Galium aparine</i>), cow parsley (<i>Anthriscus sylvestris</i>), white dead-nettle (<i>Lamium album</i>), cock's foot (<i>Dactylis glomerata</i>).
S1 – 32 FULL ACCESS	<p><u>Defunct Species-Poor Hedgerow</u></p> <p>Hawthorn (<i>Crataegus monogyna</i>) and blackthorn (<i>Prunus spinosa</i>) dominated hedgerow, generally unmanaged to a height of 2m and width of 3m. Ruderal species dominate the understorey and include common nettle (<i>Urtica dioica</i>), cleavers (<i>Galium aparine</i>) and cow parsley (<i>Anthriscus sylvestris</i>).</p>	Hawthorn (<i>Crataegus monogyna</i>), blackthorn (<i>Prunus spinosa</i>), elder (<i>Sambucus nigra</i>), common nettle (<i>Urtica dioica</i>), cleavers (<i>Galium aparine</i>), cow parsley (<i>Anthriscus sylvestris</i>), white dead-nettle (<i>Lamium album</i>), bramble (<i>Rubus fruticosus</i> agg.), ivy (<i>Hedera helix</i>).
S1 – 33 FAR DISTANCE	<p><u>Defunct Species-Poor Hedgerow With Trees</u></p> <p>There was no direct access to the hedgerow and has viewed from a distance of at least 40m with binoculars.</p> <p>Hedgerow appears to be mostly hawthorn (<i>Crataegus monogyna</i>) and blackthorn (<i>Prunus spinosa</i>) with occasional elder (<i>Sambucus nigra</i>). Infrequently managed to a height of</p>	

**STAMFORD, RUTLAND
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TN No. /Access	Description	Species
	<p>approximately 2-3m, occasional wide gaps present.</p> <p>One semi-mature ash (<i>Fraxinus excelsior</i>) tree present in hedgerow.</p>	
S1 - 34 FAR DISTANCE	<p><u>Defunct Species-Poor Hedgerow</u></p> <p>There was no direct access to the hedgerow and has viewed from a distance of at least 40m with binoculars</p> <p>Hawthorn (<i>Crataegus monogyna</i>) dominated hedgerow with occasional blackthorn (<i>Prunus spinosa</i>), elder (<i>Sambucus nigra</i>) with wide gaps. Appears to be managed to a height and width of approximately 2m.</p>	
S1 – 35 CLOSE DISTANCE	<p><u>Intact Species-Poor Hedgerow</u></p> <p>Hedgerow was viewed from a distance of approximately 20m.</p> <p>Young Leyland cypress (<i>X Cupressocyparis leylandii</i>) tree line 4-5m in height with occasional poplar (<i>Populus spp.</i>) species.</p>	

APPENDIX 3

SSSI CITATIONS

**Tickencote Marsh
Tolethorpe Road Verges**

**STAMFORD, RUTLAND
EXTENDED PHASE 1 HABITAT SURVEYS**

File ref:

County: Leicestershire **Site name: Tolethorpe Road Verges**

District: Rutland

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981

Local Planning Authority: Rutland District Council

National Grid Reference: TF 017107 **Area:** 1.1 (ha) 2.7 (ac)

Ordnance Survey Sheet 1: 50 000: 130 **1: 10 000:** TF 01 SW

Date Notified (Under 1949 Act): **Date of Last Revision:**

Date Notified (Under 1981 Act): 1987 **Date of Last Revision:** -

Other Information:

Description and Reasons for Notification:

Tolethorpe Road Verges are a representative example of eastern Jurassic limestone grassland. This type of habitat is now very scarce in the East Midlands as a result of the widespread conversion of permanent pasture to cereal. The verges support several regionally uncommon plant species.

Lying on either side of a minor road, the verges are dominated by tor-grass *Brachypodium pinnatum*, upright brome *Bromus erectus* and in places false oat-grass *Arrhenatherum elatius*. They are rich in typical calcareous grassland herbs such as stemless thistle *Cirsium acaule*, common rockrose *Helianthemum nummularium*, spiny restharrow *Ononis spinosa*, marjoram *Origanum vulgare* and small scabious *Scabiosa columbaria*. There are good populations of pyramidal orchid *Anacamptis pyramidalis*, wild liquorice *Astragalus glycyphyllos* and knapweed broomrape *Orbanche elatior*, which are all rare in Leicestershire, and of sulphur clover *Trifolium ochroleucon* which is nationally uncommon.

File ref:

County: Leicestershire **Site name:** Tickencote Marsh

District: Rutland

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981

Local Planning Authority: Rutland District Council

National Grid Reference: SK 982091 **Area:** 3.1 (ha) 7.7 (ac)

Ordnance Survey Sheet 1: 50 000: 141 **1: 10 000:** SK 90 SE

Date Notified (Under 1949 Act): **Date of Last Revision:**

Date Notified (Under 1981 Act): 1987 **Date of Last Revision:** -

Other Information:

Description and Reasons for Notification:

Tickencote Marsh is one of the very few outstanding examples of base-rich grazing marsh remaining in Leicestershire. This type of habitat is becoming increasingly scarce as a result of drainage and cessation of grazing.

The marsh has developed below a springline in the valley of the River Gwash. It owes its calcareous nature to the limestone geology underlying the upper slopes of the valley.

Lesser pond-sedge *Carex acutiformis*, marsh horsetail *Equisetum palustre*, jointed rush *Juncus articulatus* and various grasses are all locally abundant. Typical associates include marsh-marigold *Caltha palustris*, common spike-rush *Eleocharis palustris*, ragged-robin *Lychnis flos-cuculi* and southern marsh-orchid *Dactylorhiza praetermissa*. Locally uncommon species such as early marsh-orchid *D. incarnata* and marsh valerian *Valeriana dioica* are also present.

Drier areas on the fringes of the marsh support species such as quaking grass *Briza media*, dwarf thistle *Cirsium acaule* and lady's bedstraw *Galium verum*, which are characteristic of calcareous loam pastures.

The old millstream and other drainage channels contain a good range of emergent plants including gipsywort *Lycopus europaeus* and marsh wound wort *Stachy palustris*.

**APPENDIX 4
BACKGROUND DATA MAPS**

**APPENDIX 5
GLOSSARY OF TERMS**

The glossary of terms has been taken from the JNCC Phase 1 Habitat Survey Classification. All habitats have been categorized in line with the recommendations contained within the guidelines.

Woodland

Woodland is defined as vegetation dominated by trees more than 5m high when mature, forming a distinct, although sometimes open canopy. Dominant species have been noted with the understorey and ground layer species also identified. Distinct blocks of woodland, whether broadleaved or coniferous, have been mapped separately wherever possible.

The definitions of the main categories are:-

- Broadleaved woodland: 10% or less conifer in the canopy;
- Coniferous woodland: 10% or less broadleaved in the canopy;
- Mixed woodland: 10-90% of either broadleaved or conifer in the canopy.

If the cover of trees is less than 30%, the area is shown as scattered trees.

Semi-Natural Woodland

Semi-natural woodland comprises all stands which do not obviously originate from planting. The distribution of species will generally reflect natural variations in the site and its soil. Both ancient and more recent stands are included. Woodland with both semi-natural and planted trees are classified as semi-natural if the planted trees account for less than 30% of the canopy composition, but as plantation if more than 30% is planted.

The following would, amongst others, be included in the semi-natural woodland category:-

- woods with planted standards in semi-natural coppice;
- mature plantations (more than about 120 years old) of native species growing on sites where those species are native and where there are semi-natural woodland ground flora and shrub communities;
- self-sown secondary stands of exotic species
- alder carr and willow carr where the willows are more than 5m tall
- well-established sweet-chestnut coppice (that is, over 25 years old);
- woods which have been completely underplanted, but where the planted trees do not yet contribute to the canopy;

Plantation Woodland

All obviously planted woodland of any age are included in this category, with the exception of those types mentioned previously.

Scrub

Scrub is seral or climax vegetation dominated by locally native shrubs, usually less than 5m tall, occasionally with a few scattered trees. The following species are, amongst others, be included in this category:-

- Gorse, common broom and common juniper scrub;
- Stands of bramble and dog rose scrub
- Stands of mature hawthorn, blackthorn or grey willow, even if more than 5 m tall;
- All willow carr less than 5 m tall; all grey willow carr;

The following would not be included in this category:-

- Hedges
- Stands of young trees or stump regrowth less than 5 m high, where these represent more than 50% of the immature canopy cover;
- stands of introduced shrub species

Species-Poor Hedgerows

Hedges with a low diversity of native woody species and ground flora.

Species-Rich Hedges

Hedges with a high diversity of native woody species and ground flora.

Intact Hedge

Intact hedges are entire and more-or-less stock proof.

Defunct Hedge

Hedges in which there are gaps and which are no longer stock-proof.

Unimproved Grassland

Unimproved grasslands are likely to be rank and neglected, mown or grazed. They may have been treated with low levels of farmyard manure, but should not have had sufficient applications of fertiliser or herbicide, or have been so intensively grazed or drained, as to alter the sward composition significantly. Species diversity is often high, with species characteristic of the area and the soils and with a very low percentage of agricultural species. Unimproved grasslands may often be of high conservation value.

Semi-Improved Grassland

Semi-improved grassland is made up of grasslands which have been modified by artificial fertilisers, slurry, intensive grazing, herbicides or drainage, and consequently have a range of species which is less diverse and natural than

unimproved grasslands. Such grasslands are still of some conservation value. Semi-improved grassland may originate from partial improvement of acid, neutral or calcareous grassland. Species diversity will generally be lower than in unimproved grassland in the same area.

Semi-improved grassland are also common where former improved grasslands have become neglected, abandoned or only occasionally grazed and thus a more varied floral community often develops.

Improved Grassland

Improved grasslands are those meadows and pastures which have been so affected by heavy grazing, drainage, or the application of herbicides, inorganic fertilisers, slurry or high doses of manure that they have lost many of the species which one could expect to find in an unimproved sward. They have only a very limited range of grasses and a few common forbs, mainly those demanding of nutrients and resistant to grazing. Rye grass, crested dog's tail, white clover, broad leaved dock, Dandelion, daisy, meadow buttercup and bulbous buttercup are typical of improved grassland, while stands of dock species, common nettle and thistles species indicate local enrichment of the soil by grazing animals.

The following signs usually indicate substantial improvement:-

- Bright green, lush and even sward, dominated by grasses (though poaching causes unevenness);
- Low diversity of herb species;
- More than 50% rye grass, white clover and other agricultural species.

Marsh/Marshy Grassland

This includes grasslands with a high proportion of rush species, sedge species or meadowsweet, and wet meadows and pastures supporting communities of species such as marsh marigold or valerian species, where broadleaved herbs rather than grasses predominate.

Amenity Grassland

This comprises intensively managed and regularly mown grasslands, typical of lawns, playing fields, golf course fairways and many urban 'savannah' parks.

Tall Ruderal Vegetation

This category comprises stands of tall perennial or biennial herbaceous species, usually more than 25cm high, of species such as rosebay willowherb, common nettle and Japanese knotweed. Tall ruderal vegetation is indicative of areas of disturbed ground and/or nutrient enrichment.

Standing Water

Standing water includes lakes, reservoirs, pools, flooded gravel pits, ponds, water-filled ditches, canals and brackish lagoons.

Running Water

Running water comprises rivers and streams.

Arable

This includes arable cropland, horticultural land (for example nurseries, vegetable plots, flower beds), freshly-ploughed land and recently reseeded grassland, such as rye grass and rye-clover leys, often managed for silage.

Ephemeral/Short Perennial Vegetation

Short, patchy plant associations typical of derelict urban sites, quarries and railway ballast. The land is usually freely draining, and usually has shallow stony soil. The vegetation typically lacks a clear dominant species, but consists of a mixture of low growing plants, often less than 25 cm high.