NORTH KESTEVEN

LOCAL WILDLIFE SITES REVIEW 2008

A Report for North Kesteven District Council



Unit 7, Lodge Farm Barns New Road Bawburgh Norwich NR9 3LZ

T - 01603 271811 F - 020 7326 1888

E - enquiries@ecologyconsultancy.co.uk

W – www.ecologyconsultancy.co.uk

Authors	Barry Nicholson B.Sc., M.Sc., MIEEM, C.Env & Dr Graham Hopkins B.Sc., PhD, PGCE, FRES, MIEEM		
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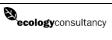
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Executive Summary

- The Ecology Consultancy was commissioned by North Kesteven District Council to carry out a review of 66 existing and candidate Sites of Nature Conservation Importance (SNCIs) during 2008. The survey was required in order to inform the emerging Local Development Framework for North Kesteven.
- A Phase 1 habitat survey was carried out on each site, with information gathered to a standard format as defined by the Lincolnshire Biodiversity Partnership (2006) in its guidance for the selection of Local Wildlife Sites for the historic county of Lincolnshire.
- The information gathered was then used to evaluate each site against the Local Wildlife Site selection criteria, and to make recommendations as to which sites should be considered by the Local Wildlife Sites Panel for designation.
- The following broad habitats, as defined in the Local Wildlife Site selection guidelines, were recorded during the survey: woodland, neutral grassland, calcareous grassland, acid grassland, freshwater, swamp, marsh and fen, and habitat mosaics.
- Some 43 sites (65% of the total) were evaluated as meeting one or more of the Local Wildlife Site selection criteria. Of these 14 qualified under woodland criteria (WD1/1b, WD2, WD4), four under neutral grassland (NG1), nine under calcareous grassland (CG1), one under heathland/acid grassland (HE2), four under flowing water (Flo1), five under standing water (Sta2), five under swamp, marsh and fen (Sw2) and three under habitat mosaics (Mos1, Mos 2).
- It is recommended that these 43 sites are given consideration by the Local Wildlife Sites Panel for designation as Local Wildlife Sites and subsequent incorporation into the Local Development Framework for North Kesteven. It is recommended that additional survey is carried out on a further three sites

before making a final assessment as to whether or not they merit designation as Local Wildlife Sites.



1 Introduction

The Ecology Consultancy was commissioned by North Kesteven District Council to carry out a review of a number of existing and candidate Sites of Nature Conservation Importance (SNCIs) during 2008. The purpose of the review was to inform the emerging Local Development Framework for North Kesteven by assessing the sites against the recently produced guidelines for the selection of Local Wildlife Sites (LWS) in Lincolnshire (Lincolnshire Biodiversity Partnership 2006). These have been prepared by the Biodiversity Partnership in response to guidance produced by Defra on Local Sites – Guidance on their Identification, Selection and Management (Defra 2006). The aim of this guidance and the selection criteria for Lincolnshire is to make the selection of Local Wildlife Sites more consistent and robust by basing it on up-to-date survey information and defined criteria.

The review took the form of a Phase 1 habitat survey of each of the 66 sites on the list of priority sites provided by North Kesteven District Council, followed by an evaluation of the features present and comparison of these with the LWS selection criteria. This report presents the results of the review, including an overview of the findings as well as individual site descriptions and species lists. It makes recommendations with respect to sites that merit designation as LWS, including any suggested boundary modifications. As well as forming part of the evidence base for the Local Development Framework, the information contained in the report will be utilised by the Local Wildlife Sites Panel of the Lincolnshire Biodiversity Partnership to assess sites for designation as Local Wildlife Sites and will be incorporated into the biodiversity database for Lincolnshire maintained by the Lincolnshire Environmental Records Centre.

It should be noted that inclusion of a site in the survey or a recommendation for its designation as a Local Wildlife Site does not confer any right of public access to the land. The landowners permission is required to visit all sites that are not open to the public.

2 The Project Brief & Methodology

The full Project Brief for the study is reproduced in Appendix 1. This originally called for a review of some 251 existing and candidate wildlife sites in North Kesteven. However, it was subsequently decided to reduce this to a priority list of 66 sites for survey during 2008, based on the requirements of the emerging LDF. These 66 sites included 41 County Wildlife Sites identified in the North Kesteven Local Plan (Adopted Version September 2007).

The process of designating sites as Local Wildlife Sites in Lincolnshire is intended to be a four stage process. Of these, the first three stages are within the scope of this project. The first stage required direct field surveys of each site to describe the habitats present and to generate an inventory of vascular plant species present along with incidental records of other plants, fungi and animals. Second, each site was then evaluated against the criteria for the selection of Local Wildlife Sites and sites that satisfy one or more criteria were identified. Third, for each site a portfolio of documentation was prepared for submission to the Wildlife Sites Review Group, including the evaluation, site record with an account of the habitats and other noteworthy features, species list and a map of the site. A GIS layer showing the boundaries of all sites surveyed and any suggested boundary modifications was also produced as part of this work package.

All of the information gathered is to be submitted to the Local Wildlife Sites Panel of the Lincolnshire Biodiversity Partnership and to North Kesteven District Council. The Local Wildlife Sites Panel will use this information to assess each site against the selection criteria for Local Wildlife Sites and will then make a recommendation as to whether or not they should be designated as a non-statutory Local Wildlife Site (LWS). Landowners/managers will be informed of the Local Wildlife Sites Panel's recommendation and, should the site be recommended for designation as a LWS, given the opportunity to make observations on the application of the selection criteria by the Lincolnshire Biodiversity Partnership Steering Group.

A copy of all of the survey information gathered will be lodged with the Lincolnshire Environmental Records Centre (LERC), for incorporation into

their database. In addition, each landowner/manager will receive a copy of the survey information pertaining to their land.

The field surveys were undertaken following standard Phase 1 habitat survey methodology (JNCC 1993) and the protocols outlined in the guidelines for the selection of Local Wildlife Sites (Lincolnshire Biodiversity Partnership 2006). A structured walk was carried out through each site, with the habitats and other features being recorded on a standard LERC recording card (see Appendix 2). A list of vascular plant species identifiable at the time of the survey was also compiled, using the Botanical Society of the British Isles (BSBI) recording card for South Lincolnshire (Appendix 2). Incidental records of bryophytes (mosses and liverworts), fungi, invertebrates, fish, amphibians, reptiles, birds and mammals were made where appropriate; however, detailed surveys of these groups were beyond the scope the project. It should be noted that for some habitats the selection criteria include the quality of the assemblages of fish or invertebrates, as determined by their community conservation score. This restriction is of particular relevance to the freshwater and the swamp, marsh and fen habitats, and may result in some sites that are of lower value for vascular plants but of potential significance for fish and invertebrates being undervalued by the current process. The status of these sites may be reviewed as further information is gathered and made available to the Wildlife Sites Panel from other sources, e.g. the Environment Agency.

National Indicator 197

NI 197 'Improved Local Biodiversity' is one of the indicators used by local authorities to report their performance under the Local Government Performance Framework. It seeks to measure the proportion of Local Wildlife Sites where positive conservation management has been or is being implemented (Defra 2008). Evidence of such positive management is considered to be a proxy for positive biodiversity outcome and is one of the ways in which local authorities can show that they are taking biodiversity into consideration and help meet their biodiversity duty under Section 40 of the Natural Environment and Rural Communities Act 2006.

To assist with the information gathering process, a section on NI 197 has been incorporated into the standard LERC recording card (see Appendix 2). This records whether there is a management plan for the site, if conservation

advice is being followed, or whether the site is entered into the Government's Woodland Grant Scheme or Environmental Stewardship (Higher Level Stewardship (HLS), Entry Level Stewardship (ELS) and Organic Entry Level Stewardship (OEL)). These are considered to indicate positive conservation management, though it should be noted that inclusion under a farm-scale initiative such as Environmental Stewardship does not necessarily mean that active conservation management is being undertaken on all features/habitats covered by the designation. Information on these aspects was gathered mainly through Magic (Multi-agency Geographical Information for the Countryside www.magic.gov.uk/), which shows those areas of the countryside covered by Woodland Grant and Environmental Stewardship agreements.



3 The Local Wildlife Sites Selection Criteria

Guidelines for the identification and selection of Local Wildlife Sites in Lincolnshire have been produced by the Local Wildlife Sites Panel of the Lincolnshire Biodiversity Partnership. These guidelines have formed the basis for the evaluation of the sites in the current study and the key aspects relevant to habitats present in North Kesteven are summarised here. Account has also been taken of proposed amendments to the guidelines (Lincolnshire Biodiversity Partnership 2008).

A series of criteria have been developed for nine broad habitat types to enable the identification of sites that are of sufficient quality for designation as Local Wildlife Sites. These are based variously on habitat continuity, area, numbers of indicator species (plant index score) or other notable features.

The criteria evaluating the botanical quality of a site are based on a total plant index value for the site or individual habitat areas, calculated as the sum of the scores for each indicator species at a site. In most instances each indicator species has a score of '1', thus the index score is effectively the number of indicator species. The small number of exceptions include:

- Neutral and calcareous grassland The restharrows Ononis and eyebrights Euphrasia, where each genus is assigned a score of '1' irrespective of the number of species.
- Acid peatland The bog moss genus Sphagnum, where the genus is assigned a score of '1' irrespective of the number of species.
- Fresh water Water starworts Callitriche where the genus is assigned a score of '1' irrespective of the number of species, and the stoneworts Characeae, where each species is assigned a score of '1' but only a maximum score of '3' can be achieved.

The broad habitat types recognised by the selection criteria are:

- Woodland and parkland
- Grassland (neutral and calcareous)
- · Heathland and acid grassland
- Acid peatland



- · Purple moor grass and rush pasture
- Fresh water
- Swamp, marsh and fen
- Coastal and estuarine habitats
- Mosaics

The selection criteria for coastal and estuarine habitats are clearly not relevant to the inland district of North Kesteven and no examples of purple moor grass and rush pasture were found during the current survey.

Woodland and parkland

The guidelines contain six criteria for woodland habitats, which include ancient woodland or ancient woodland sites, parkland or wood pasture, wet woodland and sites of value for their woodland flora. Two of the criteria relate to listings within the Ancient Woodland Inventory collated by Natural England and available at http://www.magic.gov.uk/. The botanical criteria primarily refer to a suite of woodland plants of value based on lists prepared by Peterken (2000); eighty species are listed in the guidelines, with six of the rarest indicators proposed by Peterken replaced by ferns whose presence increases the conservation value of woodlands in Lincolnshire. For the identification of wet woodland reference should be made to both the list of woodland indicators and the list of fresh water indicators. The identification of parkland or wood pasture is based on the presence of a veteran tree within a 1 hectare (ha.) site. These trees can provide valuable microhabitats such as dead wood and holes and have potential for supporting fungi, epiphytic ferns, bryophytes and lichens.

The criteria for each woodland type are:

- WD1: All semi-natural ancient woodland listed in Natural England's Ancient Woodland Inventory.
- WD1b: All plantations on ancient woodland sites listed in Natural England's Ancient Woodland Inventory.
- WD2: Woodland with characteristics of semi-natural ancient woodland that does not appear in the Ancient Woodland Inventory with a minimum species index score of 10.

- WD3: Woodland not covered by other criteria with a minimum species index score of 10.
- WD4: Wet woodland with a minimum species index score of 6 using the list of woodland indicator species and a minimum species index score of 6 using the list of fresh water indicator species.
- WD5 Parkland or wood pasture at least 1 ha. in extent that supports at least one veteran tree.

Grassland (Neutral and Calcareous)

Two distinct types of grassland habitat are covered under this set of criteria, namely neutral grassland and calcareous grassland. Each is defined by both a suite of indicator species and a minimum size. There is some overlap in the indicator species for the two types of grassland, which both contain 56 species or species groups.

The criterion for neutral grassland is:

 NG1: Semi-natural neutral grassland at least 0.1 ha. in extent, or linear areas at least 50 m long, with a minimum species index score of 8 from the list of neutral grassland indicators.

The criterion for calcareous grassland is:

 CG1: Semi-natural neutral grassland at least 0.1 ha. in extent, or linear at least 50 m long, with a minimum species index score of 8 from the list of calcareous grassland indicators.

Heathland and acid grassland

Two criteria for heathland and acid grassland habitats are included in the guidelines, based either on the total cover of the characteristic heathers or the number of indicator species within a minimum total area. The list of indicator species includes 57 species.

The criteria for heathland/acid grassland are:

 HE1: Heathland at least 0.1 ha. in extent, or linear areas at least 50 m long, that contains at least 10% heather/bell heather/cross-leaved heath. HE2: Other heathland and acid grassland at least 0.1 ha. in extent, or linear areas at least 50 m long, with a minimum species index score of 8

Acid peatland

Two acid peatland criteria are recognised; the characteristic peatland habitat itself and any adjacent areas important to maintaining the hydrological conditions of the peatland areas. The identification of peatland is based on the presence of indicator species, with the list including 37 species, while the identification of any important adjacent habitat is based on a judgement of its likely importance to water flows, levels and quality.

The peatland related criteria are:

- AP1: Acid peatland with a minimum species index score of 5.
- AP2: Buffer land where sympathetic management of water levels and water quality is essential for the ecological integrity of adjacent acid peatland.

Purple moor grass and rush pasture

A single type of purple moor grass and rush pasture habitat type is described, based on the numbers of indicator species present, with the list including 37 indicator species.

The criterion for purple moor grass and rush pasture is:

 PMG1: Purple moor grass and rush pasture with a minimum species index score of 8.

Fresh water

The fresh water habitat category includes eight different types divided between springs and flushes and similar areas, rivers and similar areas, blow wells with water upwelling under artesian pressure, and standing waters. The criteria include both botanical features based on the presence of plant indicator species, important assemblages of fish or invertebrates identified by the Community Conservation Index score (CCI) or, in the case of blow wells, all sites meeting the physical definition are included. The community conservation index score is based on an independent classification scheme

where species are assigned scores according to their ecological 'quality'. The plant indicator list is applicable to both flowing and standing waters and includes 68 main taxa, with water starworts *Callitriche* species and watercress *Rorippa* species scoring a maximum of 1 point and stoneworts Characeae a maximum of 3 points. Where the fish or invertebrate CCI and the plant indicator index is not sufficient for qualification when considered in isolation their consideration together may be sufficient to satisfy the criteria.

The five criteria for flowing waters are as follows:

- Flo1: Springs, flushes, headwaters and winterbournes of high importance for their communities of fish or invertebrate – Community Conservation Index (CCI) of 15 or above.
- Flo2: Rivers, streams, canals, drains and ditches of high importance for their communities of fish or invertebrates – CCI of 15 or above.
- Flo3: Rivers, streams, canals, drains and ditches with a minimum species index score of 10.
- Flo4: Flowing water with a CCI of 10-14, and a minimum index score of 6.
- Flo5: All blow wells.

Three criteria are included under standing waters:

- Sta1: Standing water of high importance for their communities of fish or invertebrates – Community Conservation Index (CCI) of 15 or above.
- Sta2: Standing water with a minimum species index score of 8.
- Sta3: Standing water with a CCI of 10-14, and a minimum species index score of 5.

Swamp, marsh and fen

Four criteria for swamp, marsh or fen are recognised, variously based on size, species dominance, the plant indicator score, and the presence of important invertebrate assemblages defined by the community conservation index score. The list of plant indicator species includes 61 species. Where the fish or invertebrate CCI and the plant indicator index is not sufficient for qualification when considered in isolation their consideration together may be sufficient to satisfy the criteria.

The criteria are:

- Sw1: Wet reedbeds at least 0.5 ha in extent, where the vegetated element comprises at least 90% common reed.
- Sw2: Other swamp, marsh, or fen at least 0.5 ha in extent, with a minimum species index score of 8.
- Sw3: Other swamp, marsh or fen of high importance for their communities of invertebrates – Community Conservation Index (CCI) of 15 or above.
- Sw4: Other swamp, marsh or fen with a CCI of 10-14, and a minimum species index score of 5.

Mosaics

The habitat mosaic category is most relevant where a collection of adjacent habitats fail to satisfy their respective individual criteria but when considered as a single unit they are of importance for their flora and/or flora.

Their mosaic criteria are:

- Mos1: Areas of least 1.0 ha. that support a combination of two or more individual habitats, each with an index score that is no more than three points below the qualifying threshold.
- Mos2: Areas of at least 0.1 ha. that add to the wildlife value of adjacent land qualifying for LWS designation on habitat grounds.
- Mos3: Linear features no more than 500 m long connecting sites of LWS status.
- Mos4: Areas of at least 1.0 ha that support at least one individual habitat with an index score below the qualifying threshold, with a suite of additional features.

A summary list of habitats and their Local Wildlife Site qualifying criteria is presented in Table 1 below.

Table 1: Summary of habitats and their qualifying features

Habitat	Criterion	Summary description	Qualifying feature
Woodland	WD1	Semi-natural ancient	Listing in Ancient Woodland
and parkland		woodland	Inventory
	WD1b	Plantations on ancient	Listing in Ancient Woodland
		woodland sites	Inventory
	WD2	Semi-natural ancient	Not included in Ancient
		woodland	Woodland Inventory but with
			characteristics of semi-natural
			ancient woodland and species
	MDO	Otherwood	index score of 10
	WD3	Other woodland	Minimum species index score of 10
	WD4	Wet woodland	Minimum species index score
	VVD4	Wet woodiand	of 6 for woodland plants and
			species index score of 6 for
			fresh water plants
	WD5	Parkland or wood	At least 1 ha in extent with a
	***	pasture	veteran tree
Grassland	NG1	Neutral grassland	At least 0.1 ha in extent or 50
		granding	m long for linear habitats with a
			minimum species index score
			of 8
	CG1	Calcareous grassland	At least 0.1 ha in extent or 50
		_	m long for linear habitats with a
			minimum species index score
			of 8
Heathland	HE1	Heathland	At least 0.1 ha in extent or 50
and acid			m long for linear habitats with
grassland			at least 10% cover by heathers
	HE2	Other heathland or	At least 0.1 ha or 50 m long for
		acid grassland	linear habitats with a minimum
A -1 -1	A D4	A states and a set	species index score of 8
Acid peatland	AP1	Acid peatland	Minimum species index score of 5
	AP2	Buffer land	Importance to adjacent
	A1 2	Buller land	peatland for protection of
			hydrological conditions
Purple moor	PHG1	Purple moor grass and	Minimum species index score
grass and		rush pasture	of 8
rush pasture			
Fresh water	Flo1	Springs, flushes, and	Fish or invertebrate community
		headwaters and	conservation score of 15 or
		winterbournes	above
	Flo2	Rivers, streams,	Fish or invertebrate community
		canals, and ditches of	conservation score of 15 or
		high importance for fish	above
	-	or invertebrates	
	Flo3	Rivers, streams,	Minimum species index score
		canals, and ditches of	of 10
		high importance for	
	Flo4	plants	Fish or invertebrate
	F10 4	Flowing water with	
		importance for both plant and fish or	assemblages with a community conservation score of 10-14
		invertebrates	and minimum plant species
		mvonosialos	index score of 6
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Habitat	Criterion	Summary description	Qualifying feature
	Flo5	Blow wells	All groundwater uprisings under artesian pressure
	Sta1	Standing water of high importance for fish or invertebrates	Fish or invertebrate community conservation score of 15 or above
	Sta2	Standing water of high importance for plants	Minimum plant species index score of 8
	Sta3	Standing water of high importance for plants and fish or invertebrates	Fish or invertebrate assemblages with a community conservation score of 10-14 and minimum plant species index score of 5
Swamp, marsh or fen	Sw1	Wet reedbeds	At least 0.5 ha in extent with at least 90% common reed
	Sw2	Swamp, marsh or fen of importance for plants	At least 0.5 ha in extent with a minimum plant species index score of 8
	Sw3	Swamp, marsh or fen of importance to invertebrates	Invertebrate community conservation score of 15 or above
	Sw4	Standing water of high importance for plants and fish or invertebrates	Fish or invertebrate assemblages with a community conservation score of 10-14 and minimum plant species index score of 5
Mosaics	Mos1	Mosaics	At least 0.1 ha in extent with 2 or more habitats with an index score no more than 3 below individual qualifying thresholds
	Mos2	Mosaics	At least 0.1 ha in extent that add value to adjacent land meeting qualifying for LWS designation on habitat criteria
	Mos3	Mosaics	Linear features less than 500 m long connecting sites of LWS status
	Mos4	Mosaics	At least 1.0 ha in extent supporting at least one habitat below the relevant index score threshold but with a suite of additional features



4 Results

The full results of the survey are presented in Appendix 4, which contains a site record sheet, plant species list, evaluation sheet and boundary map for each of the 66 sites surveyed. Some of the larger sites were split into two or more sub-units and in these cases each sub-unit has its own record sheet and plant species list. A plan showing the overall distribution of sites surveyed is presented as Figure 2 below.

The breakdown of main habitat types across the 66 sites was as follows:

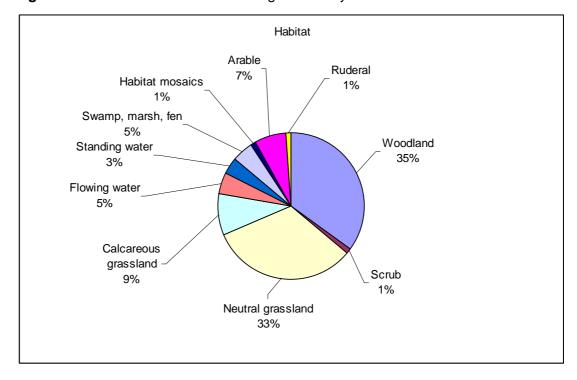


Figure 1: Main habitats recorded during the survey

In addition to the main habitat(s), most sites also supported one or more subsidiary habitat (e.g. ponds or grassy rides within a woodland, or scrub and ruderal habitats within a predominantly grassland site). These were identified where appropriate on the record sheet.

Of the woodland sites, the majority (66%) were secondary in origin, comprising either plantations or naturally developed woodland on sites that had previously been cleared of trees. Twelve sites were considered to contain ancient woodland (i.e. woodland that has existed since at least 1600 AD),

either because they were listed in Natural England's Ancient Woodland Inventory (11) or because they otherwise displayed the characteristics of ancient woodland (1). The ancient woodland sites were in most cases being actively managed and in a generally sympathetic way. On some of the ancient re-planted sites, exotic conifers were gradually being removed in favour of native broadleaves (e.g. Eagle Hall Wood, Stapleford Woods). Some woodland sites were actively managed for nature conservation, most notably those owned or managed by the Woodland Trust and the Hill Holt project. Sycamore *Acer pseudoplatanus* was identified as a potential problem in a number of the secondary woodlands and rhododendron *Rhododendron ponticum* was invasive in some of the more acid woodlands in the west of the district.

Of the grassland habitats, neutral grassland was the most widespread, though calcareous grassland was also frequently encountered. The quality of grasslands varied greatly, with many of the neutral grasslands in particular being rather rank and overgrown and therefore of lower conservation value than they might have previously been. Overgrazing was also apparent in some cases. Well managed grassland sites were rather rare and where they occurred, it was usually by accident rather than by design (e.g. calcareous grassland at RAF Cranwell (Cranwell Grassland)). Tor grass Brachypodium pinnatum was one of the most common calcareous grassland dominants and in some cases it appeared that this was increasing at the expense of other more species diverse calcareous grassland communities. Some of the best quality calcareous grassland habitats occurred on roadside verges, where threats included scrub invasion due to lack of management and eutrophication (nutrient enrichment) leading to an increase in competitive species such as nettle Urtica dioica. Few of the grassland sites were actively managed for conservation, the exceptions being Mareham Pastures Local Nature Reserve, Lollycock's Field Local Nature Reserve and Whisby Nature Park.

Heathland and acid grassland are rare habitats in North Kesteven, in the current survey being found only as subsidiary habitats within other habitat types. Some of the woodlands supported scattered ling *Calluna vulgaris* and heather *Erica* spp., but never of sufficient extent to be classified as heathland proper. Of particular note was Stapleford Moor, which is a plantation on an old

heathland site and which retains some heathland/acid grassland interest along its rides. The nearby Stapleford Wood also has some interest in this respect and Whisby Nature Park contains good examples of acid grassland habitat. No true acid peatland habitats were encountered, though both Stapleford Wood and Stapleford Moor have a suite of indicator species for this habitat. Stapleford Moor, in particular, has good potential for the restoration of heathland/acid grassland and possibly acid peatland habitats within glades and along rides and margins.

Freshwater habitats occurred in various forms, from large open water bodies on former gravel extraction sites to ponds and drains. The overwhelming majority are of conservation interest, though few are actively managed for nature conservation, the main exception being the various freshwater habitats within Whisby Nature Park. The exotic New Zealand pigmyweed *Crassula helmsii* was recorded at the latter site and was also seen at other gravel pit sites in the North Hykeham area – this highly invasive species may pose an increasing threat to wetland habitats in the vicinity.

Swamp and marsh generally occurred as subsidiary habitats in conjunction with, for example, freshwater, neutral grassland or woodland. Wherever they occurred they added to the overall conservation value of the site. No extensive reedbed habitats were recorded and the only example of fen was at Lollycock's Field LNR, where some small areas of tall herb fen vegetation occurred in conjunction with damp grassland and freshwater.

Constraints

The survey commenced in June 2008, which was well into the field survey season and already past the optimum time for surveying woodland habitats. In most cases, the survey was confined to a single visit. The plant lists should therefore not be treated as comprehensive, but rather as a representative list of species evident at the time of survey. Timing of the survey will be a particular constraint for species that flower early in the season and then disappear (e.g. some woodland ground flora species).

Obtaining access permission for some sites proved to be a lengthy process and as a result some sites could not be surveyed until October or even November. This is outside the normal survey season and this should be borne in mind when assessing the results for these sites.

Surveys of some of the grassland sites were constrained by hay cuts having recently taken place or the sward being closely grazed.

Terrain and vegetation proved a constraint in a few cases, particularly in some of the former mineral sites that had reverted to secondary woodland and which had a combination of steep difficult slopes and impenetrable scrub and other vegetation.

Surveys of the active railway sites were constrained by Network Rail requirements for a safe system of working, whilst that of Beckingham Ranges had to be timed to coincide with the annual maintenance of the ranges in mid-September.

Noteworthy species

A number of noteworthy species were recorded during the survey and these are listed in Table 2 below. Of these, the most significant is the record of the local sub-species of yellow archangel *Lamiastrum galeobdolon* ssp. *galeobdolon* from Eagle Hall Wood, a plant that is listed as Vulnerable in the latest vascular plant red data list for Great Britain (Cheffings & Farrell 2005).

Table 2: Noteworthy plant species

Common name	Scientific name	Site	Grid reference
Nettle-leaved bellflower	Campanula trachelium	Canwick Hill	SK 989 694
Nettle-leaved beliflower	Campanula trachelium	Neville Wood	TF 069 657
Nettle-leaved bellflower	Campanula trachelium	Nocton Wood	TF 085 638
Green-ribbed sedge	Carex binervis	Stapleford Wood	SK 859 557
Tufted sedge	Carex elata	Blankney Brick Pit	TF 088 603
Pale sedge	Carex pallescens	Nocton Wood	TF 085 638
Yellow sedge	Carex viridula ssp. oedocarpa	Stapleford Moor	SK 862 582
Yellow sedge	Carex viridula ssp. oedocarpa	Stapleford Wood	SK 862 565
Yellow archangel	Lamiastrum galeobdolon ssp galeobdolon	Eagle Hall Wood	SK 858 650
Venus's-looking- glass	Legousia hybrida	Cliff Farm Footpaths	TF 022 690



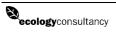
Common name	Scientific name	Site	Grid reference
Creeping forget- me-not	Myosotis secunda	Neville Wood	TF 069 657
Creeping forget- me-not	Myosotis secunda	Nocton Delph	TF 106 652
Trailing tormentil	Potentilla anglica	Stapleford Moor	SK 864 583
Wild pear	Pyrus pyraster	Hurn Wood	SK 884 689
Orpine	Sedum telephium	Nocton Wood	TF 085 635
Stingless nettle	Urtica dioica ssp. galeopsifolia	Hurn Wood	SK 884 689

National Indicator 197

A total of 24 sites (36%) or parts thereof met one or more NI 197 indicator, as detailed in Table 3.

Table 3: NI 197

Site Name	NI 197 Indicator					
	Management Plan	Advice being followed	Woodland Grant Scheme	HLS	ELS	OEL
Beckingham Ranges					+	
Stapleford Moor	+					
Stapleford Woods	+					
Eagle Hall Wood			+			
Hill Holt Wood	+	+				
Hurn Wood	+			+		
Norton Big Wood	+		+			
Tunman Wood			+			
Leadenham – Lincoln Disused Railway: Sections A, C, F, G, J & K					+	
Bracebridge Heath Clay Pit					+	
Whisby Nature Park	+			+	+	
Skelingthorpe Old Wood	+					
Goodson's Holt		+				
Lollycock's Field LNR	+	+				
Sleaford Wood	+					
Mareham Pastures	+	+				
Moor Wood					+	
Springwell Plantation					+	
Cliff Farm Footpaths					+	
Neville Wood					+	
Quern Dyke Holt					+	
The Jungle		+				
Washingborough Junction				+		
Long Holt					+	



Lincoln North Hykeham Sleaford miles

Figure 2: Distribution of sites covered by the survey

5 Recommendations

Of the 66 sites surveyed, a total of 43 (65%) were evaluated as satisfying the requirements for Local Wildlife Sites on one or more criteria, including main and additional habitats. These sites are therefore recommended for designation as Local Wildlife Sites. A list of the sites and the main criterion under which they qualify appears in Table 4 below.

Table 4: Sites recommended for designation as Local Wildlife Sites

Grid Square	Site Name	Main Qualifying Criteria
SK85	Beckingham Ranges	NG1
SK85	Stapleford Wood	WD1/1b
SK85	Stapleford Moor	HE2
SK86	Eagle PRV (Low Wood Lane) (in conjunction with Eagle Hall Wood)	Mos2
SK86	Eagle Hall Wood (in conjunction with Eagle PRV)	WD1/1b
SK86	Hill Holt Wood	WD2
SK86	Hurn Wood	WD1/1b
SK86	Norton Big Wood	WD1/1b
SK86	Tunman Wood	WD1/1b
SK95	Cranwell Grassland	CG1
SK95	Carlton-le-Moorland Grassland	NG1
SK96	Bracebridge Heath Clay Pit	NG1
SK96	Inn's Pit	Sta2
SK96	North Hykeham Gravel Pit	Sta2
SK96	Whisby Nature Park LNR	Sta2
SK97	Skellingthorpe Big Wood (Old Wood & Old Hag Wood)	WD1/1b
TF04	Flower Pot Brick Pits	WD4
TF04	Heath Farm Road Verge	CG1
TF04	Kirkby-la-Thorpe Pit	CG1
TF04	Lollycock's Field LNR	Sta2
TF04	Sleaford Fen	Sw2
TF04	Sleaford Meadows	NG1
TF04	Mareham Pastures LNR	Mos1
TF04	Wilsford Bank	CG1
TF04	Wilsford Carr	Sw2
TF05	Gorse Lane	CG1
TF05	Long Wood (North of Road)	WD1/1b
TF05	Long Wood (South of Road)	WD1/1b
TF05	Scopwick Heath Old Quarry	CG1
TF06	Blankney Brick Pit	WD4
TF06	Boothby Graffoe PRV	CG1

Grid Square	Site Name	Main Qualifying Criteria
TF06	Branston Delph	Flo3
TF06	Cliff Farm Footpaths	CG1
TF06	Metheringham Heath PRV	CG1
TF06	Neville Wood	WD1/1b
TF06	Nocton Delph	Flo3
TF06	Nocton Wood	WD1/1b
TF06	Quern Dyke Holt	WD1/1b
TF06	The Jungle	Sw2
TF07	Washingborough Junction	Flo3
TF15	North Kyme Common (North)	Flo3
TF15	North Kyme Common (South)	Sw2
TF17	Branston Island	Sta2

By main qualifying habitat, these break down as follows:

Table 5: Main qualifying habitat

Broad habitat	Criterion	No. of sites qualifying	% of all sites (66)
Woodland	WD1/1b	11	16.6
	WD2	1	1.5
Wet woodland	WD4	2	3
Neutral grassland	NG1	4	6
Calcareous grassland	CG1	9	13.6
Heathland/acid grassland	HE2	1	1.5
Flowing water	Flo3	4	6
Standing water	Sta2	5	7.6
Swamp, marsh & fen	Sw2	4	6
Mosaic	Mos1	1	1.5
	Mos2	1	1.5
Total		43	64.8

Some 42% of sites satisfied more than one habitat criterion, including habitats that were additional or not typical of the main habitat type. For example, Whisby Nature Park qualifies as a Local Wildlife Site under a number of criteria, including wet woodland (WD4), neutral grassland (NG1), heathland/acid grassland (HE2), standing water (Sta2) and swamp, marsh and fen (Sw2). A list of all of the sites, indicating the criteria under which they qualify and giving the indicator species totals for each, appears in Appendix 3.

A total of 23 sites did not meet any of the Local Wildlife Sites criteria on the basis of the results of the current survey. These are listed in Table 6 below. Of these, it is considered that three sites – all grasslands - might qualify if additional survey were carried out at a more appropriate time of year. These sites are listed in Table 6 and it is recommended that additional survey visits

are made to these sites before making a final assessment as to whether or not they merit designation as Local Wildlife Sites.

Table 6: Sites which do not meet LWS criteria on the basis of the current survey

Grid square	Site name
SK86	Enfield Farm
SK95	Fulbeck to Leadenham Disused Railway
SK95	Leadenham to Lincoln Disused Railway
SK96	Hykeham Railway Line
SK96	Black's Hillside
SK96	Waddington Grassland (Viking Way)
SK96	Waddington Pasture
SK96	Canwick Hill Wood
SK97	Skellingthorpe Hall Field
TF04	Goodson's Holt
TF04	Sleaford Wood
TF04	Sleaford Accommodation Pasture
TF05	Green Man Wood
TF05	Moor Wood
TF05	Springwell Plantation
TF05	Gilbert's Wood
TF06	Bloxham Lane Woods
TF06	Murray Wood & The Belt
TF06	Oak Holt
TF06	Curtois's Holt
TF07	Washingborough Pits
TF15	Long Holt
TF15	Billinghay Old Cemetery
	ı

Table 7: Sites which merit additional survey

Grid square	Site name
SK96	Black's Hillside
SK96	Waddington Grassland (Viking Way)
SK96	Waddington Pasture

Of the 42 sites which are recommended for designation as Local Wildlife Sites, several were found to require boundary modifications, either to the

SNCI boundary shown on the GIS layer or the County Wildlife Site (CWS) boundary indicated in the Local Plan. In some cases this was to exclude land which no longer merited inclusion, either because it was built on or had otherwise lost its ecological value. Conversely, some sites were extended to include additional areas of ecological value. The sites where boundary changes are recommended are listed in Table 8 and the relevant modifications shown on the site plans in Appendix 4.

Table 8: Candidate Local Wildlife Sites requiring boundary modifications

Grid square	Site name	Proposed modification
SK85	Beckingham Ranges	Boundary modification to exclude areas of the CWS that are not within the MOD ranges
SK85	Stapleford Moor	Boundary modification to exclude a quarry area in the north
SK85	Stapleford Wood	Boundary modification to exclude a a small non-woodland area in the southeast
SK86	Eagle Hall Wood	Boundary modification to follow SNCI boundary and incorporate additional woodland and Protected Road Verge
SK86	Hill Holt Wood	Boundary modification to follow SNCI boundary, including an additional area of woodland but excluding an old carriage drive
SK95	Cranwell Grassland	Extension to include additional areas of calcareous grassland
SK95	Carlton-le-Moorland Grassland	The CWS shown in Local Plan is an arable field and differs from the SNCI identified on the GIS layer, which is located in an adjacent field to the west. Field survey and use of aerial photography has determined that the correct boundary is that shown on the GIS layer.
SK96	Inn's Pit	Boundary modification to exclude housing areas
SK96	Whisby Nature Park	Rationalisation of the boundary to exclude those parts of the CWS that are not within Whisby Nature Park (note: other sections of the CWS are included as North Hykeham Gravel Pit)
SK96	North Hykeham Gravel Pit	Boundary modification to exclude works area
SK97	Skellingthorpe Big Wood	Boundary modification to exclude non-woodland

Grid square	Site name	Proposed modification
		areas/private gardens
TF04	Heath Farm Road Verge	Extension to include additional area of grassland
TF04	Sleaford Meadows	Boundary modification to exclude housing plot
TF04	Wilsford Carr	Boundary modification to exclude an area now converted to arable
TF04	Sleaford Fen	Extension to include additional area of woodland/wetland habitat to south
TF04	Flower Pot Brick Pits	Boundary modification to exclude houses
TF06	Blankney Brick Pit	Boundary modification to exclude houses/ gardens and include an additional area of woodland on the western boundary
TF06	Nocton Wood	Boundary modification to follow SNCI boundary to incorporate additional woodland and a pond
TF06	Quern Dyke Holt	Boundary modification to exclude non-woodland areas
TF07	Washingborough Junction	Boundary modification to exclude fields of low botanical interest
SK86	Hill Holt Wood	Boundary modification to exclude parts of the CWS in different land ownership and comprising non-woodland habitats



6 Conclusion

An ecological survey of 66 priority sites in North Kesteven has been carried out and the results used to evaluate which sites qualify for designation as Local Wildlife Sites.

The following broad habitats, as defined in the Local Wildlife Site selection guidelines (Lincolnshire Biodiversity Partnership 2006) were recorded during the survey:

- Woodland
- Scrub
- Neutral grassland
- Calcareous grassland
- Acid grassland
- Freshwater
- Swamp, marsh & fen
- Ruderal
- Habitat mosaics

Some 43 sites (65% of the total) were evaluated as meeting one or more of the Local Wildlife Site selection criteria. Of these 14 qualified under woodland criteria (WD1/1b, WD2, WD4), four under neutral grassland (NG1), nine under calcareous grassland (CG1), one under heathland/acid grassland (HE2), four under flowing water (Flo1), five under standing water (Sta2), four under swamp, marsh and fen (Sw2) and two under habitat mosaics (Mos1, Mos 2).

It is recommended that these 43 sites be given consideration by the Local Wildlife Sites Panel for designation as Local Wildlife Sites and subsequent incorporation into the Local Development Framework for North Kesteven. It is recommended that further survey work is carried out on an additional three sites before making a final assessment as to whether or not they merit designation as Local Wildlife Sites.

7 References

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Appendix 1: Project Brief

NORTH KESTEVEN LOCAL WILDLIFE SITES REVIEW PROJECT BRIEF



11 March 2008

North Kesteven District Council
District Council Offices
Kesteven Street
Sleaford
Lincolnshire
NG34 7EF

Project Brief

North Kesteven Local Wildlife Sites Review

Background

- 1. North Kesteven District Council is in the early stages of preparing a Local Development Framework (LDF) for the District. It is important that the policies in the LDF are drawn up on a sound basis to truly represent the unique needs and characteristics of the District. To do this, the Council needs robust evidence on which to base its policies and proposals and to monitor the effect of the LDF over time. The Government's Planning Policy Statement 12 (Local Development Frameworks) (PPS12) reinforces the need for a robust evidence base.
- 2. Planning Policy Statement 9 (Biodiversity and Geological Conservation) (PPS9) and its companion guide are the primary national policy documents for biodiversity and planning. One of the key principles of PPS9 is that development plans should be based upon upto-date information about the environmental characteristics of their area.
- 3. Locally, the Lincolnshire Biodiversity Action Plan (BAP) is a key document. The Lincolnshire BAP includes Action Plans and two of the key actions in respect of Local Wildlife sites are to resurvey all existing Sites of Nature Conservation Importance (SNCIs) to assess them against Local Wildlife Site criteria by 2010; and to identify and survey potential new Local Wildlife Sites by 2015. This is also a Local Area Agreement (LAA) target.
- 4. At a national level, DeFRA has produced "Local Sites: Guidance on their Identification, Protection and Management" in 2006 and in July 2006 "Local Wildlife Sites: Guidelines for their Identification and Selection in the Historic County of Lincolnshire", was published by the Wildlife Sites Review Group (a sub-group of the Lincolnshire BAP Partnership).

The Project Brief

- 5. North Kesteven is one of seven districts in Lincolnshire and is a predominantly rural area in the centre of the County. It covers an area of 92,000 hectares or 356 square miles, of which 90% is classified as agricultural land.
- 6. In the North Kesteven Local Plan, there are 44 sites designated as County Wildlife Sites, (essentially the same as SNCIs), of which two are Local Nature Reserves. Also within the Local Plan are seven sites designated as Sites of Special Scientific Interest (SSSIs). These sites

have been incorporated into the adopted North Kesteven Local Plan 2007.

- 7. The Lincolnshire Wildlife Trust has produced a list of existing and candidate wildlife sites within the district. In total, there are 258 existing and candidate wildlife sites identified by the Lincolnshire Wildlife Trust within North Kesteven. Excluding SSSIs, there are a total of 251 sites to be surveyed. A full list of all sites can be found in Appendix A, including Regionally Important Geological and Geomorphological sites (RIGS) and Protected Road Verges (PRV).
- 8. The Council is seeking a review of all wildlife sites identified in Appendix A with the exception of SSSIs. The survey is expected to provide the underlying baseline evidence of the type, range, scarcity and fragility of habitats in North Kesteven and is to include the review of existing and candidate wildlife sites.
- 9. The consultants will be required to lead and undertake a review of the status and integrity of those designated and candidate wildlife sites in North Kesteven that are not protected at a higher level. The consultants should:
 - Carry out a "Phase 1" habitat survey of these sites and their immediate environs. Using the selection criteria set out in "Local Wildlife Sites: Guidelines for their Identification and Selection in the Historic County of Lincolnshire" 2006, (see link in paragraph 4 above), the consultant should assess any boundary changes needed, and identify and provide evidence for those sites which continue to be of sufficient wildlife value to be designated as Local Wildlife Sites.
 - To this end, the consultants shall provide, for each site, a schedule with accompanying updated or amended site plan, setting out the species, habitats or features judged to be of interest to provide the data required by the Wildlife Sites Review Group. The Lincolnshire Guide contains a methodology that the consultants would be expected to follow. However, the consultants are expected to provide a detailed methodology of how this will be carried out as part of the tender submission.
 - Data should be provided in a suitable format for the Lincolnshire Environmental Records Centre and the format should be agreed with the Manager of the Records Centre.
- The consultant will be responsible for identifying and obtaining the consent of landowners/occupiers to access the sites for survey purposes and for informing the landowners/occupiers of the outcome of the surveys.

Interim and Final Report

- 11. Given the length of time the study is likely to take, the Council wishes the consultant to quote <u>separately</u> for the cost of producing an interim report after the first year of the study. The interim report should follow the format of the main report, the requirements of which are outlined below. This to enable the Council to review the progress of the work undertaken in the first year, that is by the end of 2008.
- 12. The consultant will be responsible for preparing a final report and appendices, setting out all the field data and other data collected by the study and the recommendation regarding the status and future designation of each site, existing and candidate. The evidence contained in the report will need to be clear, transparent and robust enough to survive the LDF Public Examination process. It is therefore important that the survey results, in terms of descriptions and species lists, should be accompanied by coloured plans on an ordnance survey base with notes for each site. Each site assessment should conclude with a clear recommendation to the Council as to whether the site should be designated as a Local Wildlife Site for the emerging North Kesteven LDF.
- 13. The final report shall be accompanied by an Ordnance Survey based plan in digital mapping format compatible with the GIS systems of the Council (Map Info) and the Lincolnshire Environmental Records Centre.
- 14. The final end date is the date by which a finished report, appendices and digital maps must be provided to the Council in electronic format (PDF/Map Info) and two bound paper copies. However, it will be necessary for an electronic draft of the Report/Appendices to have been provided to the Council at least three working weeks prior to the proposed end date, in order for the Council's officers to consider the draft and provide any further information and feedback to the consultant prior to one week before the proposed end date.
- 15. The field data and other relevant data, in both paper and digital format, will need to be made available to North Kesteven District Council, Lincolnshire County Council and the Lincolnshire Environmental Records Centre.
- 16. The final report should be delivered to the Council by 30th November 2009. This enables the information to be used for the ongoing work on the Local Development Framework and in determining applications for planning permission.

Examination

17. The Council requires the consultant to lead and undertake the biodiversity study as a whole, which must be prepared with a view to it

providing a sound basis for the consideration of the Local Development Framework at Examination. At this stage the Council does not envisage asking the consultant to appear at any Examination, but the possibility of this must be taken into account in preparing the report and appendices. If attendance at the examination should be required, the fee will be negotiated at a daily/hourly rate.

Submission to the Wildlife Sites Review Group

18. The Council requires that the consultant will provide sufficient evidence to the Wildlife Sites Review Group to support its recommendations to either promote sites as Local Wildlife Sites or to remove their designated or candidate status. At this stage, it is not anticipated that the consultant will be required to attend the Wildlife Sites Review Group to present evidence but the possibility of this must be taken into account in preparing the report and appendices. If attendance at the above meeting should be required, the fee will be negotiated at a daily/hourly rate.

The Tender

- 19. The charges set out in the tender must include the consultant's time involved in collating existing information; collecting landowners details and consents, visiting the sites and carrying out survey work; drawing up the schedules for the sites; supplying this information to the landowners/occupiers of the sites; preparing the final report and appendices and submitting an electronic copy and two paper copies of the final report and appendices to North Kesteven District Council, and the Lincolnshire County Council and the Lincolnshire Environmental Records Centre (this includes the printing cost for the paper copies of the final Report and appendices). The charges must also include administration and other incidental costs.
- 20. The consultant must have a method of quality control to ensure that the work undertaken and the output produced meet the client's requirements and meet statutory and good practice guidance so as to ensure that any LDF policies produced as a result of the survey are sound. Tenders will need to give a brief outline of how quality control will be addressed by the consultant.
- 21. If at any stage, the Council were to consider that the consultant were not meeting the Council's requirements then the matter must be the subject of a meeting between the Council and the consultant in order to seek to resolve the matter. If the matter could not be resolved to the agreement of both parties, or if the problem were to re-occur then the Council would be entitled to terminate the commission.
- 22. The consultant must ensure that they do not have any other contracts where there would be a conflict of interest. In addition, the appointed

- consultants must safeguard the confidentiality of any data supplied for the purposes of the study.
- 23. The tender should include any cost increase likely in the second year of the study.
- 24. The Council must receive tenders no later than midday on the 2nd April 2008.



Appendix 2: Recording Forms

Site Survey Form

Site name	Grid reference	
		Lincolnobino
		Lincolnshire
Site sub-division	Date	Environmental
		Records
Pagardar(a)	Time on site	
Recorder(s)	Time on site	Centre
*	hrs	mins
Habitate (M - main A - additional)		Constraints
Habitats (M = main, A = additional) Woodland – semi-nat / plantation	Running Water	Early / Late survey
Wet Woodland	Spring / Flush / Blow Well	Short visit / Weather
Parkland / Wood-pasture / Orchard	Standing Water / Pond	Hay cut
Scrub –	Reedbed	Terrain / Vegetation
Neutral Grassland – Unimp / Semi-imp	Grazing Marsh Sand Dune / Saline Lagoon	Dogs / Grazing / Game
Calcareous Grassland – Unimp / Semi-imp Acid Grassland – Unimp / Semi-imp	Saltmarsh / Mudflat	NI 187
Damp Grassland / Marsh / Fen	Brownfield Mosaic	Management Plan
Heathland / Acid Peatland	Ruderal	Advice being followed
Bracken	Arable / Improved Grasslan	
		HLS / ELS / OEL
Site description (including fauna;	rare/notable spp (with grid refs.);	etc - note if supplementary sheets
attached)		
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		as with frequent / prolonged flooding asonally wet / damp areas
		thworks / hummocky ground
		thes – shallow / deep
		Igerows – spp rich / poor
		ess / visibility
Structural diversity		icational potential
Management N	o grazing / cutting Sila	ge / hay / hay with grazing
		wing and non-removal
		quent short mowing
		tiliser / pesticide / herbicide use
		essive drainage
	ther grazing Off-	road vehicle damage
Ride mowing (woodland)		tipping / pollution / fires
Non-intervention (woodland)	ontrolled burning Inva	asive species

BSBI Recording Form

Route Map						Notes	
						Date	
The Name of the Locality		Habitat		Recorder(s)		Grid Reference	
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Please cross through the species names only. */agg refers to aggregate species encompassing other taxa. Version 1b

Appendix 3: Summary of Results

Grid square	Site name	Grid reference	Area	Status	Sub-site	WD1/ 1b	WD2/3	WD4	NG1	CG1	HE2	AP1	Flo3	Sta2	Sw2	Mos 1	Mos 2	Additional features
					Qualifying threshold		10	6+6	8	8	8	5	10	8	8			
SK87	Stapleford Wood	SK860563	227.3	SNCI		•	4	4+10	10	4	10	8	10	10	9			Planted specimen trees. Fallen dead wood. Seasonally wet / damp areas. Deep ditches. Access. Educational potential.
	Stapleford Moor	SK865587	127.8	SNCI			5	5+5	6	4	9	5	5	5	4			Planted specimen trees. Fallen dead wood. Seasonally wet / damp areas. Deep ditches.
	Beckingham Ranges	SK878554	471.6	SNCI			7	7+16	13	6	2		16	16	11			Planted specimen trees. Fallen dead wood. Ant hills. Steep slopes. Ridge and furrow. Seasonally wet / damp areas. Deep ditches. Spp. poor hedgerows.
SK86	Eagle PRV (Low wood lane)	SK857652	?	PRV			4	4+1	5	4			1	1	2		•	Ditches. Spp. rich hedgerow.
	Eagle Hall Wood	SK860655	56	SNCI	Woodland	•	16	16+7	9	4	1		7	7	7			Veteran / pollarded trees. Standing / fallen dead wood. Sap runs on/ holes in trees. Tussocky vegetation. Abundant nectar sources. Structural diversity. Seasonally wet areas. Ditches.



Grid square	Site name	Grid reference	Area	Status	Sub-site	WD1/ 1b	WD2/3	WD4	NG1	CG1	HE2	AP1	Flo3	Sta2	Sw2	Mos 1	Mos 2	Additional features
					Qualifying threshold		10	6+6	8	8	8	5	10	8	8			
					Rides													Tussocky vegetation. Abundant nectar sources. Structural diversity. Seasonally wet areas. Shallow ditches.
	Hill Holt Wood	SK862605	14.35	SNCI			15	15+6	6	2	6		6	6	5			Veteran / pollarded trees. Standing / fallen dead wood. Abundant nectar sources. Structural diversity. Shallow ditches. Access. Educational potential.
	Enfield Farm	SK863676	1.59	SNCI	Enfield Farm				5	2	1				1			Spp. poor hedgerows
					Enfield Barn				2	2	1		2	2	2			Seasonally wet / damp areas. Shallow ditches, Spp. poor hedgerow.
	Norton Big Wood	SK880605	36.55	SNCI		•	8		1		5							Standing / fallen dead wood. Educational potential.
	Hurn Wood	SK884689	19.67	SNCI		•	20	20+1	5	1			1	1	4			Standing / fallen dead wood. Seasonally wet / damp areas. Deep ditches.
	Tunman Wood	SK885648	38.2	SNCI		•	12	12+2	5	2	4		2	2	3			Planted specimen trees. Standing / fallen dead wood. Seasonally wet / damp areas. Ditches.



Grid square	Site name	Grid reference	Area	Status	Sub-site	WD1/ 1b	WD2/3	WD4	NG1	CG1	HE2	AP1	Flo3	Sta2	Sw2	Mos 1	Mos 2	Additional features
					Qualifying threshold		10	6+6	8	8	8	5	10	8	8			
SK95	Fulbeck to Leadenham Disused Railway	SK953503 - SK955525	25.51	SNCI	North		1			1								Tussocky vegetation, Ditches, Spp. poor hedgerows
					South		2		5	5								Standing / fallen Dead wood. Bare ground. Seasonally damp areas.
	Carlton Le Moorland Grassland	SK922575	0.43	SNCI	(including conservation margin)		2		8 (9)	3 (4)	3				3			Ridge and furrow. Seasonally damp areas. Spp. poor hedgerow.
	Leadenham to Lincoln Disused Railway	SK955525 - SK974708			A		1		3	4	2							
					В				1	2								Bare ground. Shallow ditches. Spp. poor hedgerows.
					С		1		3	4	1							Bare ground. Shallow ditches. Spp. poor hedgerows.
					D				1	1								Tussocky vegetation. Bare ground.
					Е		2		5	4	2							Planted specimen trees. Standing / fallen dead wood. Seasonally wet/damp areas.
					F					2								Tussocky vegetation. Areas with frequent / prolonged flooding. Seasonally wet / damp areas.



Grid square	Site name	Grid reference	Area	Status	Sub-site	WD1/ 1b	WD2/3	WD4	NG1	CG1	HE2	AP1	Flo3	Sta2	Sw2	Mos 1	Mos 2	Additional features
					Qualifying threshold		10	6+6	8	8	8	5	10	8	8			
					G				3	2	2				1			
					Н		1		1	2								Abundant nectar sources. Structural diversity. Bare ground. Seasonally wet / damp areas.
					I				2	1					1			Abundant nectar sources. Structural diversity. Bare ground. Seasonally wet / damp areas.
					J		2	2+2	2	3			2	2	1			Planted specimen trees. Standing / fallen dead wood. Tussocky vegetation. Structural diversity. Steep slopes. Areas with frequent / prolonged flooding.
					К		1		1	1								Planted specimen trees
					L		1		2	2								Access.
					М				1	1	1							Tussocky vegetation. Bare ground. Access.
	Cranwell Grassland	SK994502	11.19	SNCI	Plantation		2		1	5							•	Standing / fallen dead wood. Tussocky vegetation. Structural diversity.



Grid square	Site name	Grid reference	Area	Status	Sub-site	WD1/ 1b	WD2/3	WD4	NG1	CG1	HE2	AP1	Flo3	Sta2	Sw2	Mos 1	Mos 2	Additional features
					Qualifying threshold		10	6+6	8	8	8	5	10	8	8			
				SNCI	Grassland				6	17	1							Tussocky vegetation. Abundant nectar sources. Structural diversity.
SK96	Hykeham Railway Line	SK936674 - SK944680	1.95	SNCI	East		1		2	2	6							Tussocky vegetation. Anthills. Bare ground. South facing slopes.
					Centre		1				1							Fallen dead wood. Anthills.
					West		1	1+1	4	1	4		1	1	5			Fallen dead wood. Anthills. Deep ditches.
	Whisby Nature Park (LNR)	SK915672	107.3	LNR			11	11+21	20	11	12		21	21	20			Standing / fallen dead wood. Tussocky vegetation. Abundant nectar sources. Structural diversity. Bare ground. Steep slopes. South facing slopes. Areas with frequent / prolonged flooding. Seasonally wet / damp areas. Earthworks / hummocky ground. Shallow ditches. Educational potential.



Grid square	Site name	Grid reference	Area	Status	Sub-site	WD1/ 1b	WD2/3	WD4	NG1	CG1	HE2	AP1	Flo3	Sta2	Sw2	Mos 1	Mos 2	Additional features
					Qualifying threshold		10	6+6	8	8	8	5	10	8	8			
	North Hykeham Gravel Pit	SK928665	96.33	SNCI	Cemex Angling Lake		9	9+9	5	5	6		9	9	9			Veteran / pollarded trees. Standing / fallen dead wood. Bare ground. Steep slopes. South facing slopes. Seasonally wet / damp areas. Deep ditches
				SNCI	Millennium Green		1 (3)	1+9	6	2	3		9	9	6			Tussocky vegetation. Abundant nectar sources. Structural diversity. Planted hedgerow. Access / Visibility. Education potential.
	Inn's Pit	SK945675	30.95	SNCI			5	5+9	11	5	7		9	9	11			Planted specimen trees. Steep slopes. South facing slopes. Seasonally wet / damp areas.
	Bracebridge Heath Clay Pit	SK971672	20.85	SNCI			5	5+4	8	3	4		4	4	6			Educational potential.
	Waddington Pasture (western site)	SK972640 (SK971639)	4.43	SNCI	West field (SS1)				4	3	1		1	1	2			Tussocky vegetation. Ridge and furrow. Seasonally wet / damp areas.
					East field (SS2)				1	1								Standing / fallen dead wood. Tussocky vegetation. Seasonally wet damp areas. Shallow ditches. Hedgerows.



Grid square	Site name	Grid reference	Area	Status	Sub-site	WD1/ 1b	WD2/3	WD4	NG1	CG1	HE2	AP1	Flo3	Sta2	Sw2	Mos 1	Mos 2	Additional features
					Qualifying threshold		10	6+6	8	8	8	5	10	8	8			
	Black's Hillside, Waddington (Eastern Site)	SK973640 (SK972639)	3.58	SNCI			2		3	4			2	2				Standing / fallen dead wood. Sap runs on/holes in trees. Tussocky vegetation. Structural diversity. Ridge and furrow. Seasonally wet damp areas. Hedgerows.
	Waddington Grassland (Viking Way)	SK973645 (SK972646)	4.7	SNCI			1		4	2	1		2	2				Tussocky vegetation. Steep slopes. Seasonally wet / damp areas. Earthworks / hummocky ground. Hedgerows.
	Canwick Hill Wood	SK991694	19.61	SNCI			4			1			1	1	2			Planted specimen trees. Fallen dead wood. Sap runs on / holes in trees. Steep slopes. Earthworks / hummocky ground.
SK97	Skellingthorpe Wood	SK905724 - SK907724	72.23	SNCI		•	36	36+9	16	4	7		9	9	13			Standing / fallen dead wood. Tussocky vegetation. Abundant nectar sources. Structural diversity. Seasonally wet / damp areas. Ditches. Spp. Poor hedgerows.
	Skellingthorpe Hall Field	SK933719	4.06	SNCI					_		4		2	2	1			Bare ground. Spp. poor hedgerows.



Grid square	Site name	Grid reference	Area	Status	Sub-site	WD1/ 1b	WD2/3	WD4	NG1	CG1	HE2	AP1	Flo3	Sta2	Sw2	Mos 1	Mos 2	Additional features
					Qualifying threshold		10	6+6	8	8	8	5	10	8	8			
TF04	Wilsford Carr	TF005443	6.88	SNCI			3	3+13	6	2	2		13	13	18			Standing / fallen dead wood. Areas with frequent / prolonged flooding? Seasonally damp areas.
	Wilsford Bank	TF009431 - TF011430 (TF008430- 011429)	?	PRV	North bank				9	23	8							Tussocky vegetation. Abundant nectar sources. Anthills. Bare ground. Rock outcrops. Steep slopes. South facing slopes.
	Heath Farm Road Verge	TF022470 - TF022477	1.06	SNCI			5		11	18	1							Tussocky vegetation. Abundant nectar sources. Spp. poor hedgerows.
	Sleaford Fen	TF055458	4.02	SNCI			4	4+9	4	2			9	9	13			Planted specimen trees. Standing / fallen dead wood. Hummocky ground.
	Sleaford Meadows	TF061457	2.26	SNCI			2	2+9	7 (8?)	2	1		9	9	13			Abundant nectar sources. Seasonally wet / damp areas. Ditches. Hedgerows.
	Goodson's Holt	TF063449	1.22	SNCI			4	4+1					1	1	2			Veteran trees. Standing / fallen dead wood. Structural diversity. Seasonally wet/damp areas. Shallow ditches.



Grid square	Site name	Grid reference	Area	Status	Sub-site	WD1/ 1b	WD2/3	WD4	NG1	CG1	HE2	AP1	Flo3	Sta2	Sw2	Mos 1	Mos 2	Additional features
					Qualifying threshold		10	6+6	8	8	8	5	10	8	8			
	Sleaford Wood	TF071469	10.5	WTR			7	7+1					1	1	4			Standing / fallen dead wood. Sap runs on / holes in trees. Structural diversity. Ditches. Access. Education potential.
	Lollycock's Field LNR	TF072459	2.05	LNR			5	5+14	6	1			14	14	10			Standing/fallen dead wood. Tussocky vegetation. Abundant nectar sources. Seasonally wet / damp areas. Access visibility. Education potential.
	Sleaford Accommodation Pasture	TF079468	1.09	SNCI					4	8	3							Planted specimen trees. Bare ground.
	Kirkby-la-Thorpe Pit	TF082452	2.25	ex- LWT			1	1+3	7	8	2		3	3	1			Tussocky vegetation. Abundant nectar sources. Structural diversity. Anthills. Bare Ground. Areas with frequent/prolonged flooding. Seasonally wet / damp areas.



Grid square	Site name	Grid reference	Area	Status	Sub-site	WD1/ 1b	WD2/3	WD4	NG1	CG1	HE2	AP1	Flo3	Sta2	Sw2	Mos 1	Mos 2	Additional features
					Qualifying threshold		10	6+6	8	8	8	5	10	8	8			
	Flower Pot Brick Pits	TF084427	5.36	SNCI			6	6+7	3	5	1		7	7	7			Planted specimen trees. Standing/fallen dead wood. Tussocky vegetation. Structural diversity. Bare ground. Areas with frequent / prolonged flooding. Seasonally wet / damp areas.
	Mareham Pastures (LNR)	TF071447	11.46	LNR			2 (3)	2+1	5	7			1	1	3	•		(CG1 + NG1 = 10) Planted specimen trees. Standing / fallen dead wood. Seasonally wet / damp areas. Spp. rich hedgerows.
TF05	Gorse Lane	TF013576 - TF014563	2.21	SNCI			1		4	12	1							Tussocky vegetation. Spp. rich hedgerows.
	Green Man Wood	TF016595	45.88	SNCI			3	3+1	1	3	2		1	1	1			Standing / fallen dead wood
	Moor Wood	TF020525	7.48	SNCI			3		2	6								Standing / fallen dead wood. Spp. poor hedgerow.
	Springwell Plantation	TF044547	0.84	SNCI					1	3								Fallen dead wood.
	Gilbert's Wood (Overton's Wood)	TF048594	11.78	SNCI			5		3									Standing / fallen dead wood.
	Long Wood (south of road)	TF060592	8.25	SNCI		•	7		4	5	1				1			Standing / fallen dead wood. Steep slopes. Earthworks / hummocky ground.



Grid square	Site name	Grid reference	Area	Status	Sub-site	WD1/ 1b	WD2/3	WD4	NG1	CG1	HE2	AP1	Flo3	Sta2	Sw2	Mos 1	Mos 2	Additional features
					Qualifying threshold		10	6+6	8	8	8	5	10	8	8			
	Long Wood (north of road)	TF060596		SNCI		•	1											Standing / fallen dead wood. Steep slopes. Shallow ditches.
	Scopwick Heath Old Quarry	TF062587	1.74	SNCI			1		11	15								Planted specimen trees. Tussocky vegetation. Bare ground. Rock outcrops. Steep slopes. South facing slopes. Earthworks / hummocky ground. Access / visibility
TF06	Boothby Graffoe PRV	TF006600 - TF010601		PRV			2		9	14	6							Tussocky vegetation. Structural diversity. South facing slope (in centre). Spp. poor hedgerow (western end)
	Cliff Farm Footpaths	TF007680 - TF025690	1.4	SNCI			1	1+5	8	9	2		5	5	8			Bare ground. Spp. poor hedgerows.
	Bloxham Lane Woods	TF022626	2.87	SNCI			2											Planted specimen trees. Standing / fallen dead wood. Sap runs on / holes in trees. Bare ground.
	The Jungle	TF023676	1.62	SNCI			3	3+12	2				12	12	13			Pollarded trees. Fallen dead wood. Areas with frequent flooding. Seasonally wet / damp areas. Deep ditches. Possible educational potential.



Grid square	Site name	Grid reference	Area	Status	Sub-site	WD1/ 1b	WD2/3	WD4	NG1	CG1	HE2	AP1	Flo3	Sta2	Sw2	Mos 1	Mos 2	Additional features
					Qualifying threshold		10	6+6	8	8	8	5	10	8	8			
	Metheringham Heath PRV	TF033608 - TF049613	3630m	PRV	East				12	19	2							Tussocky vegetation. South facing slopes. Hedgerows.
				PRV	West				15	22								
	Murray Wood & The Belt	TF039602	10.89	SNCI			5			3								Standing / fallen dead wood.
	Oak Holt	TF046694	5.24?	SNCI	Woodlands		6		3									Planted specimen trees. Standing / fallen dead wood. Ditches.
					Grassland		2	2+3	3	2			3	3				Tussocky vegetation. Seasonally wet / damp areas.
	Curtios's Holt	TF050671	6.41	SNCI			7				2							Standing / fallen dead wood. Sap runs on / holes in trees. Deep ditches.
	Branston Delph	TF061692 - TF090709	21.22	SNCI			2	2+18	6				18	18	10			Deep ditches.
	Quern Dyke Holt	TF066672	2.2	SNCI		•	8?											Standing / fallen dead wood. Sap runs on / holes in trees. Ditches.
	Neville Wood	TF070658	7.78	SNCI		•	16		1	1					2			Standing / fallen dead wood. Deep ditches.



Grid square	Site name	Grid reference	Area	Status	Sub-site	WD1/ 1b	WD2/3	WD4	NG1	CG1	HE2	AP1	Flo3	Sta2	Sw2	Mos 1	Mos 2	Additional features
					Qualifying threshold		10	6+6	8	8	8	5	10	8	8			
	Nocton Wood	TF085638	102.4	SNCI		•	28	28+11	18	8	7		11	11	16			Planted specimen trees. Standing / fallen dead wood. Tussocky vegetation. Abundant nectar sources. Structural diversity. Seasonally wet / damp areas. Deep ditches.
	Nocton Delph	TF085643 - TF127664	48.33	SNCI			1	1+20	8		2		20	20	11			Tussocky vegetation. Anthills. South facing slopes. Seasonally wet / damp areas. Ditches.
	Blankney Brick Pit	TF088603	5.03	SNCI			6	6+6	2	2			6	6	10			Standing / fallen dead wood. Areas with frequent / prolonged flooding. Earthworks / hummocky ground.
TF07	Washingborough Junction	TF007708- TF016708	14.92	SNCI			3	3+11	4				11	11	8			Tussocky vegetation. South facing slopes. Seasonally wet / damp areas. Deep ditches. Spp. rich hedgerows.
	Washingborough Pits	TF022701	4.76	SNCI			4			2								Standing / fallen dead wood. Structural diversity. Seasonally wet areas Earthworks / hummocky ground.



Grid square	Site name	Grid reference	Area	Status	Sub-site	WD1/ 1b	WD2/3	WD4	NG1	CG1	HE2	AP1	Flo3	Sta2	Sw2	Mos 1	Mos 2	Additional features
					Qualifying threshold		10	6+6	8	8	8	5	10	8	8			
TF15	Long Holt	TF106584					1 (3)	1+1					1	1	1			Standing / fallen dead wood. Holes in trees. Shallow ditches. Hedgerows.
	North Kyme Common (North Kyme End)	TF149532 - TF154542	7.68	SNCI			1	1+7	3				7	7	8			Tussocky vegetation. Seasonally wet / damp areas.
	North Kyme Common	TF154542 - TF157548		SNCI			2	2+11	5	3			11	11	6			Tussocky vegetation. Seasonally wet / damp areas. Spp. poor hedgerows.
	Billinghay Old Cemetery	TF157550	0.44	SNCI					1									Planted specimen trees. Ditches. Spp. poor hedgerows.
TF17	Branston Island	TF100708	81.75	SNCI					1	2			11	11	5		•	Steep slopes, South facing slopes, Areas with frequent / prolonged flooding, Ditches

Note: Sites indicated in bold are those which qualify as Local Wildlife Sites under one or more criteria. The relevant criteria and species index score is also indicated in bold.

SNCI

Site of Nature Conservation Importance Protected Roadside Verge Woodland Trust Reserve PRV WTR



Appendix 4: Individual Site Record Sheets

(See separate document:

NorthKestevenReviewofLocalWildlifeSitesAppendix4V5.doc)

