



# LINCOLNSHIRE BIODIVERSITY PARTNERSHIP

## LOCAL WILDLIFE SITES

Guidelines for their Identification & Selection  
in the Historic County of Lincolnshire  
(Lincolnshire, North Lincolnshire  
& North East Lincolnshire)

LOCAL WILDLIFE SITES PANEL  
(A Sub-Group of Lincolnshire Biodiversity Partnership)

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Neil Pike, on behalf of Lincolnshire Wildlife Trust (LWT), developed the first draft criteria for identification of Wildlife Sites in 2001 with funding from the Esmee Fairbairn Charitable Trust (Pike, 2001). These criteria were field tested in four pilot areas in 2004 by Jeremy Fraser, on behalf of LWT, with funding from Lincolnshire County Council.

In December 2004, the Wildlife Sites Review Group met for the first time as a sub group of the Lincolnshire Biodiversity Action Plan Partnership. Members were:

- East Lindsey District Council (ELDC) - Chris Mayes (to June 2005) & David Pocklington
- English Nature (EN) – Neil Pike
- Lincolnshire County Council (LCC) – Jon Watson
- Lincolnshire Environmental Records Centre (LERC) – Margaret Haggerty
- Lincolnshire Naturalists' Union (LNU) – Chris Manning
- Lincolnshire Wildlife Trust – Elizabeth Biott, Jeremy Fraser & Caroline Steel (Chair)
- North-East Lincolnshire Council (NELC) – Mike Sleight
- North Lincolnshire Council (NLC) – Andrew Taylor

Rachel Hackett, from The Wildlife Trusts UK Office, and a number of Environment Agency (EA) staff provided additional advice. The group investigated Wildlife Sites systems employed in other counties.

The group was further assisted in developing the criteria by additional field testing carried out by North Lincolnshire Council and by the LWT in the Lincolnshire Wolds AONB, with funding from Lincolnshire Wolds Countryside Service, LCC, EA, EN and LWT.

Responses to draft documents were received from the following ecologists/naturalists:

Dr Michael Archer - County Recorder for ants, bees & wasps  
Allan & Annette Binding - County Recorders for butterflies, shield bugs & spiders  
Annette Faulkner - County Recorder for bats  
Helen Gamble - Lincolnshire Wolds Countryside Service  
Charlotte Gault - East Midlands Wildlife Trusts  
Anne Goodall - Lincolnshire Bird Club  
Andrew Henderson  
Paul Kirby - County Recorder for higher plants  
Adam Kwolek - Defra-RDS  
John Moore - LWT Team member  
Lincolnshire Chalk Streams Partnership  
North Lincolnshire Council Environment Team  
Brian Redman - County Recorder for grasshoppers & crickets  
John Redshaw - County Recorder for non-marine molluscs  
Prof Mark Seaward - County Recorder for lichens and mosses  
Tammy Smalley - Wash Estuary Strategy Group  
Kevin Wilson - LWT Gibraltar Point Site Manager

Other representatives of BAP Partner organisations contributed comments at meetings and in writing.

The first version of these Guidelines was published in July 2006. This current document represents a revision of that document, carried out by the Local Wildlife Sites Panel. Changes to organisation names have been brought up to date, certain issues have been clarified, species lists and threshold scores have been reviewed, example letters have been added, and there is now a criterion for Purple Moor Grass and Rush Pasture.

## **PART 1 - OVERVIEW**

## 1. INTRODUCTION

- 1.1. This document describes the process for identifying and gaining recognition for sites of substantive nature conservation value in the context of the historic county of Lincolnshire. The Guidelines cover the historic county (subsequently referred to as 'Lincolnshire'), in line with Lincolnshire Biodiversity Partnership, i.e. the administrative areas of Lincolnshire, North Lincolnshire and North East Lincolnshire. The selection process described will ensure recognition of sites: they may then be afforded protection through the planning system and be targeted with grants and other resources to assist their conservation.
- 1.2. This guidance is consistent with *Local Sites – Guidance on their Identification, Selection and Management* (Defra, 2006) and should be read in conjunction with that publication and *Planning Policy Statement 9: Biodiversity and Geological Conservation* (ODPM, 2005) and *Planning for Biodiversity and Geological Conservation: A Guide to Good Practice* (ODPM, 2006).
- 1.3. The Defra guidance recommends that Regionally Important Geological and Geomorphological Sites (RIGS) are considered alongside sites of value for wildlife. Local Geodiversity Sites are not covered in this document, but it is anticipated that similar Guidelines will be produced in the near future.
- 1.4. Most local authority Development Plans relating to Lincolnshire contain policies relating to Sites of Nature Conservation Importance (SNCIs) or similar designations: these sites were identified on the basis of local knowledge and were selected without consideration of any formal criteria. They have not been assessed against the criteria within this document. To avoid confusion, until sites have been assessed they should retain their SNCI, or equivalent, designation. As recommended by Defra, sites meeting the selection criteria described in this document will be termed Local Wildlife Sites (LWSs). As agreed within the Lincolnshire Biodiversity Action Plan (2<sup>nd</sup> edition, 2006), local authorities should aim to review all SNCIs by 2010. Information on sites selected as LWSs will form the baseline against which changes can be monitored.
- 1.5. These guidelines have been developed by a sub-group of the Lincolnshire Biodiversity Partnership and are published by this Partnership, in accordance with Defra and ODPM recommendations. The document is available on the Lincolnshire Biodiversity Partnership website ([www.lincsbiodiversity.org.uk](http://www.lincsbiodiversity.org.uk)) where amendments agreed by the Partnership will be recorded (see Section 10). Part 1 of these guidelines contains information of general interest. Parts 2 and 3 are more technical and are of particular relevance to practitioners.

## 2. WHAT IS A LOCAL WILDLIFE SITE?

- 2.1. Local Wildlife Sites (LWSs), along with biological Sites of Special Scientific Interest (SSSIs), some of which are of international importance, are the most important places for wildlife in the county. They have substantive nature conservation value and their continued presence makes a significant contribution to maintenance of biodiversity. They may also have an important role in contributing to public enjoyment and understanding of nature.
- 2.2. The BAP Partnership will seek to identify every site which satisfies the selection guidelines presented in Parts 2 and 3 of this document. In contrast, through notification of the biological SSSI series, Natural England seeks to protect a *representative* suite of habitats and assemblages of species (JNCC, 1988). Not all sites which meet SSSI criteria have been, or will be, notified.
- 2.3. SSSI status provides protection for nationally important sites whose interest may be biological, geological, geomorphological or combinations of these. Where a SSSI contains wildlife features of local significance that are not part of its national conservation objectives, these may be considered for LWS designation. Consideration should also be given to selecting sites receiving other protection, such as statutory Local Nature Reserves and nature reserves managed by voluntary bodies.
- 2.4. The aim for the network of Local Wildlife Sites in Lincolnshire is to:
  - Provide a comprehensive rather than a representative suite of sites;
  - Include the full range of habitat types of nature conservation importance in Lincolnshire;
  - Include sites which support species which are rare or threatened nationally, regionally or in the county;
  - Reflect the geographical distribution of habitats and species in Lincolnshire, particularly where this includes species at the limit of their national or local range or isolated pockets of habitat otherwise uncommon in the locality;
  - Link sites of biodiversity importance and provide routes or stepping stones for the migration, dispersal and genetic exchange of species in the wider environment; and,
  - Contribute to the quality of life and well-being of the community and reflect the importance of conservation for scientific purposes, education and enjoyment.
- 2.5. LWS designation complements protection of habitats and species by other mechanisms. For example, great crested newts (*Triturus cristatus*) receive legal protection under the Wildlife and Countryside Act 1981 (as amended) and designation of all ponds in which they breed would not provide extra safeguards. Some sites are used sporadically by mobile species eg flocks of geese feeding on arable fields: agri-environment grant schemes provide more suitable means of conservation. Information on species is available from the Lincolnshire Environmental Records Centre (LERC) alongside site information.

### 3. PURPOSE OF LOCAL WILDLIFE SITE SELECTION

- 3.1. The purpose of selection of Local Wildlife Sites is to ensure that the nature conservation value of these sites is recognised so that informed decisions may be made on their future management.
- 3.2. The Defra guidance on Local Sites (Defra, 2006) describes the legislative and policy context for LWSs. Reference is made to Planning Policy Statement 9: Biodiversity and Geological Conservation; Planning Policy Guidance Note 17: Planning for Open Space, Sport and Recreation; the relationship between local BAPs and Community Strategies; the Countryside and Rights of Way Act 2000 (Section 74); the Biodiversity Strategy for England; and the EU Habitats Directive (Article 10, transposed into UK law in regulation 37 of the Habitats Regulations 1994).
- 3.3. Planning Policy Statement 9 states *'Sites of regional and local biodiversity and geological interest, which include Regionally Important Geological Sites, Local Nature Reserves and Local Sites, have a fundamental role to play in meeting overall national biodiversity targets; contributing to the quality of life and the well-being of the community; and in supporting research and education. Criteria-based policies should be established in local development documents against which proposals for any development on, or affecting, such sites will be judged.'* In Planning Policy Statement 12: Local Development Frameworks (ODPM, 2004) *'areas of more regional or local importance for biodiversity and where biodiversity will be enhanced'* are cited for inclusion on adopted proposals maps.
- 3.4. The criteria listed in Part 3 of this document are rigorous and robust and their use to assess sites will give confidence that those meeting the criteria are of substantive nature conservation value.
- 3.5. Local Wildlife Site notification provides landowners/managers with information on the wildlife value of their land to assist them in making choices on management. In prioritising allocation of grants, such as payments through the Environmental Stewardship Higher Level Scheme, agencies will be able to target grants towards Local Wildlife Sites. Other bodies will be able to channel resources to provide advice and practical assistance with management. Practical links may be made with Community Strategies, such as local group help with conservation management of appropriate sites.
- 3.6. The condition of LWSs provides a measure of Biodiversity Action Plan achievements at local, regional and national levels. The Lincolnshire BAP identifies the priorities for habitat and species conservation and enhancement within the county and sets targets for achievement, with reference to those targets in national and regional plans and strategies. The Lincolnshire Biodiversity Partnership has identified as a priority the need to acquire detailed information on sites of importance for their wildlife (by 2010). Local authorities are required to provide reports on local biodiversity to regional government offices through their Annual Monitoring Report, as part of the assessment of the effectiveness of their planning policies. Local Development Framework Monitoring: A Good Practice Guide (ODPM, 2005) makes specific reference to monitoring areas designated for their local significance for biodiversity.
- 3.7. Since 1<sup>st</sup> October 2006, Local Authorities and Public Bodies have had a duty to have regard for biodiversity under the Natural Environment and Rural Communities (NERC) Act.

- 3.8. The New Performance Framework for Local Authorities and Local Authority Partnerships: Single Set of National Indicators published in October 2007 includes NI 197: Improved Local Biodiversity – proportion of Local Sites where positive conservation management has been or is being implemented. This requires up-to-date information on the management being carried out on Local Wildlife Sites (see Site Survey Form)

#### 4. IDENTIFICATION AND SELECTION OF LOCAL WILDLIFE SITES

- 4.1. The Defra guidance on Local Sites recommends that the Local Sites Partnership (in Lincolnshire, the Lincolnshire Biodiversity Partnership) should:
- Be responsible for site selection;
  - Possess adequate technical knowledge;
  - Develop and document site criteria;
  - Select sites against criteria;
  - Record reasons for selection of each site;
  - Allow site owners an opportunity to comment; and,
  - De-select sites which no longer qualify.
- 4.2. Sound biological information is needed before a site can be assessed to determine whether or not it should be selected as a Local Wildlife Site. The majority of SNCIs already included in Local Plan proposals maps and referred to in local planning policies are likely to meet one or more LWS criteria. Existing sites should therefore be the starting point for selection of LWSs, but others may be proposed by landowners, or naturalists, or may come to light as a result of other surveys, published Environmental Statements, etc.
- 4.3. Unless sufficient up-to-date information is available, sites should be visited before attempting to apply LWS criteria. Site owners should, whenever possible, be contacted and asked for permission for access to survey and monitor sites. Surveys will be carried out by competent ecologists/naturalists who are able to record the information required to make an assessment, as described in Part 2 and Annex 2. Existing SNCIs, information on which is held by LERC, should retain their status until they have been surveyed and assessed under the new selection guidelines.
- 4.4. The Local Wildlife Sites Panel is a working group of Lincolnshire Biodiversity Partnership, with the delegated responsibility to assess candidate LWSs. Panel members, drawn from statutory and voluntary nature conservation organisations and local authorities, are appointed by the Partnership Steering Group: they must all have ecological expertise. The agreed quorum is four Panel members. Representatives from Local Authorities are invited to attend relevant meetings. It is expected that the site surveyors will also attend relevant meetings. The Lincolnshire Biodiversity Partnership (through its Steering Group) is the final arbiter for the evaluation and selection process.
- 4.5. The Panel will meet as necessary to examine survey reports, assess sites against the agreed selection guidelines and consider representations. The decision making process will be transparent and consistent: details are given in Section 11. The Panel may seek the views of Lincolnshire Naturalists' Union County Recorders, other wildlife experts or relevant organisations. Local authorities will be invited to nominate a representative to attend Panel meetings when sites in their authority area are being considered. The Panel will make one of the following recommendations for endorsement by the Partnership Steering Group:
- To select the site as a LWS, with a prescribed boundary; or
  - To not select the site as a LWS; or
  - To defer a decision in order to gain additional information (e.g. to commission further survey if the site was visited at a sub-optimal time of year).

- 4.6. Prior to formal endorsement, site owners/managers will be informed of the outcome of the Panel assessment and will be given the opportunity to make observations on factors relating directly to the application of site selection criteria, as recommended by Defra. At this stage site owners/managers will also be sent full details of the site survey, including site description and boundary map, and species lists, along with habitat specific factsheets.
- 4.7. As recommended by Defra, sites formally selected by the Partnership Steering Group '*must be submitted to the local authority for inclusion within their Local Development Frameworks at the earliest opportunity*' (Defra, 2006, paragraph 24). It will be the responsibility of the local authority to ensure that site owners/managers are informed of the outcome of this process.

## 5. MANAGEMENT, MONITORING AND REVIEW

- 5.1. Data relating to sites (whether selected as LWSs or not) will be held by LERC on behalf of the BAP Partnership, and will be managed according to its published policies and procedures in line with National Biodiversity Network guidelines.
- 5.2. Defra recommends that '*Local authorities should provide leadership in establishing and maintaining partnerships and systems to manage Local Sites.*' It also recommends that '*locational details should be sent to relevant decision-makers with further information on the site's features and interest as appropriate*' (Defra, 2006, paragraphs 16 and 71). Service Level Agreements with Lincolnshire Biodiversity Partnership may be the most effective means of achieving this.
- 5.3. LWSs should be re-surveyed on a five to ten year rolling cycle, and their status reviewed, as recommended by Defra. This monitoring cycle will be dependent on available resources but, if it exceeds ten years, the data would not be considered sound and up-to-date. National Indicator 197 requires information on management that is not more than five years old.
- 5.4. Monitoring of LWSs (or other sources of information) may reveal deterioration of designated sites. If this is the case, the assessment procedure outlined in Section 4 will be re-applied and consideration given to the potential for restoration of the site's features of interest. If restoration is not feasible, the BAP Steering Group may notify owners and other interested parties that formal de-selection will take place. The local authority should then remove reference to the site from its Local Development Framework at the earliest opportunity.
- 5.5. As recommended by Defra, Lincolnshire Biodiversity Partnership will review these guidelines from time to time. The current Guidelines were revised in 2008. A complete review will consider if:
  - The system is operating in the most effective way;
  - The sites selected represent an adequate selection of sites of nature conservation interest in Lincolnshire;
  - There is sufficient information on the condition of LWSs; and,
  - Measures for LWS conservation and management are effective.

It would be appropriate to schedule such a review for 2015, because the current edition of the Lincolnshire BAP includes targets up to this date. The review should also include consideration of the effects of climate change on habitats and species.

An interim review after 2010 is also recommended, once the biodiversity audit proposed in the Lincolnshire BAP has been completed. At this time, there would be an opportunity to re-consider threshold levels (see paragraph 10.5), and discuss possible expansion of the criteria to include sub-tidal habitats. If thresholds are changed, sites will not normally be reconsidered until they are resurveyed as part of the rolling resurvey cycle. Consideration could also be given to the addition of guidelines on management and resourcing of the LWS system, as recommended by Defra (Defra, 2006, Part 4).

## **PART 2 - THE SELECTION PROCESS**

## 6. INTRODUCTION

- 6.1. The wildlife of the historic county of Lincolnshire is described in a variety of documents, particularly *Nature in Lincolnshire – Towards a Biodiversity Strategy* (Smith, 1996), *The Lincolnshire Biodiversity Action Plan* (Farrow & Wright, 2000), and Lincolnshire Biodiversity Action Plan 2<sup>nd</sup> Edition (Simpkin, 2006). Natural England identifies 97 terrestrial “Natural Areas” within England, eight of which occur in Lincolnshire. Each area has a characteristic set of natural features that are described in Natural Area Profiles (these can be downloaded from [www.naturalengland.org.uk](http://www.naturalengland.org.uk)). However, the Lincolnshire Biodiversity Partnership recognises that there is less information available on the biodiversity of Lincolnshire than is needed in order to make sound decisions on future policies. The current edition of the Lincolnshire BAP includes targets for establishing baseline data on the extent of habitats in the county.
- 6.2. Lincolnshire Wildlife Trust began sending local authorities formal lists of important wildlife areas in Lincolnshire in the 1970s, although the process of identifying sites began more than 20 years before that. Creation of nature reserves and designation of Sites of Special Scientific Interest have helped to conserve the very best of these sites against a background of improving legal safeguards and funding opportunities, and increasing public support. Now that such sites are relatively well protected from damaging activities, it is time to place much more emphasis on wildlife in the largely unprotected wider countryside.
- 6.3. Each local planning authority in Lincolnshire holds a list of selected sites of value for wildlife, the majority of which are not protected by nature reserve or SSSI status. These are known as Sites of Nature Conservation Importance (SNCIs) or a variety of other names (see Glossary). Every county in England has similar designations, although up to now there has been no consensus over nomenclature.
- 6.4. In common with many counties, there has been no standardised approach to SNCI designation in the past. This is now being addressed by the introduction of rigorous criteria for selecting sites, which will be known as Local Wildlife Sites (LWSs) as recommended by Defra. In Lincolnshire, the BAP Partnership aims to assess all existing SNCIs and new sites using the new criteria.
- 6.5. LWSs will be selected by the LWS Panel, following the procedure presented in Section 11 of this document and using the criteria that form Part 3. For details of the LWS Panel, see Section 4 of Part 1.

## 7. DEVELOPMENT OF LWS SELECTION CRITERIA

- 7.1. In 2001, the Lincolnshire Wildlife Trust drafted guidelines for selection of Lincolnshire Wildlife Sites in consultation with local experts (Pike, 2001). The format and content of these guidelines were based to a significant extent on similar documents that had been produced recently in other counties, with modifications to reflect the nature conservation resource in Lincolnshire.
- 7.2. The draft guidelines were 'field tested' in four pilot areas during 2004 and then work began to produce a final version. A Wildlife Sites Review Group (WSRG) was set up to carry out this task, under the auspices of the Lincolnshire BAP Partnership (now the Lincolnshire Biodiversity Partnership).
- 7.3. In developing the criteria the WSRG gave careful consideration to the character of the county, as described in Natural England's Natural Area Profiles, and to the conservation priority given to each habitat in the Lincolnshire BAP. The group considered the merit of giving different weightings to criteria in different parts of the county and to the presence of particular species.
- 7.4. In formulating the criteria the WSRG referred to criteria developed for SSSI designation and for LWS selection in other counties. These included all those recommended by Defra for consideration (Defra, 2006) i.e:
  - Size or extent;
  - Diversity;
  - Naturalness;
  - Rare or exceptional features;
  - Fragility;
  - Typicalness;
  - Recorded history and cultural associations;
  - Connectivity within the landscape;
  - Value for appreciation of nature; and,
  - Value for learning

Whilst the individual criteria do not explicitly embody all of the above features, the selection guidelines encompass two elements that between them should ensure comprehensive coverage. The approach involves the LWS Panel first considering all relevant criteria and then referring to supplementary information (see paragraphs 11.5 and 11.6).

- 7.5. The WSRG consulted widely in developing the criteria to gain a consensus on the definition of 'substantive' nature conservation value in the Lincolnshire context. This consultation was particularly important in setting thresholds.

## **8. KEY FEATURES OF THE SELECTION CRITERIA**

- 8.1. The selection criteria form Part 3 of this document, which comprises eight sections. There is some variation in approach, but each section contains two to six criteria. Data from each site are applied to the criteria to determine the wildlife value of the site in terms of the habitats present.
- 8.2. Most of the criteria require the comparison of botanical data for the site under consideration with a tabulated list of plants considered indicative of the habitat in question.
- 8.3. Although there are some minor exceptions (see paragraph 10.4), every recorded plant species appearing in the appropriate table contributes one point towards an index score. If the index score meets or exceeds a stated threshold score, then there is a strong case for selection.
- 8.4. As a general rule (see paragraph 8.5), there are no criteria relating purely to individual animal or plant species, or to assemblages of species. However, the selection process has been designed to make sure that sites of interest for the species which occur there are given due consideration (see paragraphs 10.13 & 11.6).
- 8.5. The major reason for not including criteria dealing purely with plant and particularly animal species is lack of data (see paragraph 10.2). Freshwater habitats are an exception, however, because the Environment Agency (EA) holds a considerable amount of relevant data. As a result, many of the freshwater criteria refer to invertebrate, fish and plant species records (see paragraph 10.9).
- 8.6. A more detailed rationale is given in Section 10. The relationship with BAP habitats is discussed under each set of criteria in Part 3.

## 9. DATA REQUIREMENTS

- 9.1. Site data requirements are normally:
- Landowner details;
  - An identified boundary;
  - A written assessment of the habitats present;
  - A plant species list for each different part of the site;
  - Information on current site management;
  - Any relevant observations about other species and site features; and,
  - Information on public access, visibility, clearly walked paths, etc.
- 9.2. Useful information about a site can be obtained remotely through aerial photography, but data gathered in the field is needed for an adequate evaluation. In addition, it is very important to use data that is as up-to-date as possible, because habitats, and the flora and fauna using them, can change over time.
- 9.3. Already documented data can be useful when assessing a site, but seldom will it be adequate in isolation (an exception is some of the data held by EA concerning freshwater sites). It is therefore usually necessary to make a site visit whether or not any other data exists.
- 9.4. The main objective of each field visit is to carry out one botanical survey in each recognisably different part of each site, ideally using the standard recording form that has been developed for use in the field (see Annex 1). This form incorporates a large number of tick boxes to make recording as swift, comprehensive and consistent as possible. Annex 2 provides an outline of the survey procedure.
- 9.5. Whilst identification of most faunal species is not expected, the surveyor should note as much relevant information as possible. This could include any site features indicating potential for individual species or species groups, such as a pond that may support breeding amphibians. Thorough use of the additional features tick boxes is particularly important in providing pointers to possible faunal value.
- 9.6. All records will undergo a validation procedure, as described in LERC 'Policies and Procedures', before being incorporated into LERC database.
- 9.7. Surveyors should aim to record on a field-by-field basis, unless sub-division is appropriate. Sub-division may be desirable where the area is particularly large, or where it comprises more than one habitat type, or where it supports areas of varying wildlife value. Linear sites should be split into sections of approximately 1 km length for recording purposes.
- 9.8. Whatever recording unit boundaries are chosen, these must be clearly recorded, ideally on a map or sketch. It is preferable to use boundaries that appear on base maps, such as fences, hedges and watercourses.
- 9.9. Time spent on site should be noted, as well as any constraints (for example torrential rain), to give some idea of the degree of thoroughness of each survey.

- 9.10. Any relevant information that can be obtained from the land manager should be recorded, such as past and present management, future intentions, and changes in vegetation structure and flora and fauna. If such data is not available, then the surveyor should try to infer management issues from site condition. This is relevant for monitoring of National Indicator 197.
- 9.11. According to the guidelines, all examples of three priority habitats in the Lincolnshire BAP should be designated; these are ancient woodland (as shown in the appropriate ancient woodland inventory), sand dunes and saline lagoons. For these habitats, thresholds for size or species are not applied, and the only data needed is a map showing the site boundary. However, a full survey should be carried out where possible in order to provide information on species presence and to allow comparisons in the future.

## 10. SELECTION GUIDELINES RATIONALE

### 10.1. General points

As discussed in paragraph 7.4, factors which should be taken into consideration in determining whether sites should be selected as LWSs are described in Annex C of the Defra guidance on Local Sites (Defra, 2006). The following provides greater detail on the rationale for Lincolnshire and should be read in conjunction with the Defra guidance.

### 10.2. Emphasis on botanical data

Sites of nature conservation importance can be of two types. The first of these is semi-natural habitat of interest in its own right, which may or may not support significant populations or assemblages of flora and/or fauna. The second category is habitat of little intrinsic interest, but which does support significant populations or assemblages of flora and/or fauna. The aim of this document is to provide a means of selecting both types of site, although data concerning most faunal groups is much more difficult to obtain than botanical data. This is because good botanists are both fairly numerous and able to identify a high proportion of plants at every site, thus allowing a quick and satisfactory assessment of botanical value. In contrast, only a few faunal groups are studied to a similar extent, for example birds and butterflies. This leaves a small number of experts who can do no more than scratch at the surface of other animal groups, notably the hugely diverse and largely unknown invertebrate fauna. In order to cope with this problem, the guidelines employ botanical recording as the primary means of identifying good habitat, but incorporate other approaches for recognising faunal interest (see paragraphs 11.5 & 11.6).

### 10.3. Compilation of habitat tables

The plant species listed in each table have been drawn up in consultation with botanists who have specific knowledge of Lincolnshire habitats. In the case of woodland, the major part of the list comprises ancient woodland indicator species derived from a detailed study of woodlands in central Lincolnshire (Peterken, 2000). Table 1 is a slightly modified version, in that the six rarest species (which were only recorded once each) have been replaced by six fern species, because all ferns were omitted from the indicator species study.

Scientific and common names of plants in the selection guidelines follow those in the *New Flora of the British Isles, Second Edition* (Stace, 1997).

### 10.4. Species scoring

The draft selection guidelines (Pike, 2001) allocated scores of between 1 and 5 to all listed plant species, reflecting the significance of each one, for instance in terms of local, regional or national rarity. This complex approach has been discontinued, because a comparison with the simpler one-point-per-species method revealed no significant differences in site selection. However, a slight change has been introduced to try to reduce bias in five difficult-to-identify plant groups: bog mosses; eyebrights; water-starworts; bladderworts; and water-cresses. In these cases each group contributes no more than one index point to the index score, for example if no eyebright species is recorded the score is 0, if 1 eyebright is present the score is 1, and if 5 eyebrights are present the score is still 1. This method is appropriate because most surveyors do not attempt to differentiate between the many eyebright species. Another poorly recorded group comprises the stoneworts. The maximum permitted score for these aquatic algae is 3, because they are important pioneer species often occurring where few vascular plant species are present.

10.5. **Threshold setting**

The level at which an index threshold is set will directly influence the number and quality of selected sites. For this reason, data from the 2004 pilot surveys and from other recent surveys were used to test the impact of different thresholds. Further testing will be carried out by Lincolnshire Environmental Records Centre (LERC) as more data becomes available. If LERC considers that changes to one or more of the thresholds is desirable, this will be referred to the LWS Panel and the BAP Steering Group for a decision. Changes may then be authorised (leading to re-assessment of some designated LWSs), with finalised threshold scores adopted no later than 2010. Further revisions may be necessary in future to reflect local, regional and national trends in abundance and distribution. Any revisions will be highlighted on the BAP web site.

10.6. **Site size**

Many of the criteria refer to minimum size limitations of 0.1 ha or 0.5 ha. An argument could be made that size limitations are not necessary, provided that habitat quality is high, but it would not be practical to try to designate every small habitat fragment. Furthermore, such sites are vulnerable to damage and, where there is little chance of natural regeneration or re-colonisation, they are unlikely to retain their nature conservation interest.

The converse argument is that minimum sizes should be larger. However, many sites are quite small, and so the limitations have been chosen to reflect this. There is no maximum size for LWSs, providing recording has been carried out to a satisfactory level of detail (see paragraph 9.7) and the selection guidelines are satisfied for each constituent part.

10.7. **Linear sites**

Linear areas are referred to in criteria **NG1**, **CG1**, **HE1** and **HE2**, which deal with neutral grassland, calcareous grassland and heathland. Land considered under the term linear includes rail and road verges, tracks, green lanes or stream sides. Metalled roads forming part of a linear site should be excluded where feasible. The term "linear riverside habitat" used in criteria **Co1** and **Co2** is self-explanatory, while the linear habitat of criterion **Mos3** can be any strip of land with characteristics that facilitate successful movement of species from one area to another.

The criteria refer to linear sites with a minimum length of 50 m. In common with the site size limitations, this approach attempts to include a high percentage of interesting sites, whilst excluding the very smallest and most vulnerable.

10.8. **Boundaries**

As management of vegetation is critically important for most wildlife sites, it is usually best to use management unit boundaries as LWS boundaries. Fences, hedges and watercourses often mark such boundaries, and in many cases enclose land of varying quality for wildlife. If the majority of a management unit supports good quality habitat, then selection of the entire area as a LWS is likely to be acceptable, but potential LWSs dominated by poor quality habitat need much more careful consideration. One option is to move the site boundary to exclude poor habitat, and another is to not select the site.

#### 10.9. **Freshwater invertebrates**

There are criteria within freshwater (flowing and standing), and swamp/marsh/fen that refer to the Community Conservation Index of a site. This method assesses the conservation value of aquatic invertebrates present at a site by:

- determining the relative rarity of the species present (e.g. Red Data Book)
- determining the community richness (number of species)

#### 10.10. **Scrub**

No criteria deal directly with scrub, because it is often a transitional habitat, and the presence of scrub may indicate deterioration of grassland, heathland or wetland habitat. However, scrub does have significant wildlife value in certain circumstances, and therefore its inclusion should be considered carefully during site evaluation.

#### 10.11. **Recently created habitat**

It is widely recognised that long-established habitats resulting from consistent application of traditional management are likely to be diverse and valuable for a wide range of wildlife. Furthermore, it is impossible to artificially create some habitats, such as semi-natural ancient woodland.

Previously developed, recently created or artificial habitats may be of significant wildlife value, for instance ponds or disused quarries supporting pioneer species that struggle to find natural niches nowadays. On the other hand, many new habitats are of much less value, especially where inappropriate introduction of species of flora and fauna has taken place. The Panel will therefore take into account the history and potential for recreation of sites when considering selection of recently established habitats. In general, re-created sites will only be considered if they are over 10 years old, and with the agreement of the landowner.

#### 10.12. **Mosaics**

Habitat mosaics and diverse sites are important for a large number of invertebrates and other fauna that require a range of different habitats within a limited distance. **Mos1** allows selection of combinations of habitats, providing that each has an index score no more than three points below the appropriate threshold. This reflects the concept that groups of habitats can be of great wildlife value, even if the individual components are not particularly rich in key plant species. **Mos2** provides the option of adding important subsidiary habitat to land that qualifies as a LWS. This could be a hydrological buffer zone next to a bog or could be land with feeding opportunities for a species that breeds in the main area. **Mos3** permits designation of linear habitat of little intrinsic interest, if it forms a connection between LWSs. The idea of linking sites that are in effect stepping stones is very important for many animals that are vulnerable when surrounded by inhospitable habitat. Connectivity within the landscape will become increasingly important in the coming years as vulnerability increases due to the impact of climate change.

#### 10.13. **Conservation of Fauna**

These guidelines contain no selection criteria based on significant populations or assemblages of flora and fauna, reasons for which are outlined in paragraph 10.2. However, conservation of species will be achieved for the following two reasons:

Firstly, the selection of sites using the habitat-based criteria should lead to conservation of the majority of animal species, even if few details are known of the populations present. Use of the mosaics criteria is important in this regard,

but LWSs comprising single habitats can also support many species, such as diverse assemblages of butterflies on calcareous grassland.

Secondly, members of the LWS Panel will use their professional judgement in considering sites for selection. Areas supporting particular species will be considered, even if the habitat criteria thresholds are not satisfied (**Mos4**). For example, botanically-poor woodland might be considered if it supports a heronry. In addition to important single species examples, the LWS Panel will also consider carefully any sites which support a range of species, for instance a wetland feature with a rare dragonfly, several uncommon plants and a kingfisher nest site. Generally, the more features of interest, the more reason there is to select a site.

Given that this approach is to be taken, the importance of recording all species during site visits (and when investigating other sources of relevant data) cannot be over-emphasised. Use of the long list of additional features tick boxes on the site survey form is an important means of alerting the LWS Panel to potential faunal interest, which could be followed up by commissioning specialist surveys of the rarest and most threatened species. Nationally and internationally protected species, as well as nationally rare, scarce and local species, are referred to in Annex 3.

## 11. DECISION MAKING

- 11.1. Once site data are available, the details will be presented to the LWS Panel for consideration. The Panel comprises personnel with ecological expertise appointed by the Lincolnshire Biodiversity Partnership Steering Group, which has stipulated a quorum of four members. The Panel's recommendations will be based on the guidelines laid out below to ensure consistency, through impartial use of professional judgement. An invitation for a representative to attend will be sent to each local authority covering the sites under consideration at Panel meetings.
- 11.2. The LWS Panel will normally meet three or four times per year. Additional meetings may be convened if there are matters to discuss urgently: alternatively, information may be circulated by electronic means and votes made remotely.
- 11.3. A list of candidate LWSs will be circulated by LERC to all LWS Panel members before each meeting. This list will include the following details for each site: local authority, site name, central grid reference (or extremity grid references in the case of linear sites), area, habitat scores and additional features present. A GIS layer showing the recommended site boundaries will also be available if requested.
- 11.4. Additional information will be provided at the meeting, including:
  - Map showing boundary and proximity to other sites
  - Description
  - Additional features on the site
  - Current site management
  - Supplementary information, including notable species records
  - Species list(s)
- 11.5. During assessment, the Panel will first note whether or not sites pass at least one criterion. Sites that satisfy one or more criteria will normally be recommended for selection by the Panel, providing members have confidence in the site data, the proposed boundary and other relevant factors.
- 11.6. The Panel will also consider relevant supplementary information, such as: the presence of plant or animal species that are nationally, regionally or locally rare, good access for the public, additional site features that would support invertebrate populations or other fauna, or existing or potential value for appreciation of nature or learning. Sites which the Panel considers are clearly of substantive nature conservation value will be recommended for selection under Mos4.
- 11.7. The basis for individual site selection will be recorded, showing the habitats, species and features judged to be of substantive value and how they were assessed against the criteria.
- 11.8. Sites that fail to satisfy at least one criterion will not necessarily be rejected. There may be insufficient information available for an assessment to be made and the Panel may request further information, for instance specialist survey data or changes in the proposed boundary. Once these requests have been satisfied, the new site details can be re-submitted to the Panel for re-consideration.
- 11.9. By 2010, all sites designated by a LA as SNCIs or equivalent will have been assessed under the guidelines. Where it has not been possible to gain

permission to re-survey a site which showed substantive nature conservation value at the time of the last survey, and where there is no evidence of loss of nature conservation interest, it will be retained/ selected as a LWS. This includes Sites of Nature Conservation Interest (SNCIs) where no recent survey has taken place. Such sites will be re-assessed by the Panel when up-to-date information is available.

- 11.10. The Panel will only recommend that a site is rejected as a LWS if it considers that adequate recent survey has taken place and other relevant factors have been considered. Reasons for non-selection could include presence of significant populations of non-native species or inclusion of large areas of land with little wildlife interest. The rationale will be recorded.
- 11.11. A site may be re-assessed after selection/non-selection if its condition changes.
- 11.12. Information on all recommendations made by the Panel, and the reasons for those recommendations, will be clearly documented and held by LERC. The basis for site selection will be transparent to anyone who wishes to understand the rationale behind the decision.
- 11.13. Site owners/managers will be informed of the outcome of the Panel assessment and will be given the opportunity to make observations on factors relating directly to the application of site selection criteria. The Lincolnshire Biodiversity Partnership Steering Group will consider the recommendations of the Panel and any other representation and be the final arbiter on LWS selection. Its decisions will be recorded and held by LERC.

## **PART 3 - THE SELECTION CRITERIA**

## WOODLAND AND PARKLAND

### Habitat status:

Lincolnshire BAP priority habitats:

- Ancient semi-natural woodland
- Wet woodland

Habitats listed as being of principal importance for the conservation of biological diversity in England (CROW Act 2000, Section 74):

- Lowland mixed deciduous woodland
- Wet woodland
- Lowland wood-pasture and parkland

Additional UK BAP priority habitats (2007):

- Traditional orchards

There are approximately 22,500 ha of woodland in Lincolnshire, little more than 3% of the total area and considerably less than the national average. There are fewer than 100 areas of parkland, i.e. ancient trees in pastureland.

### **WD1 All semi-natural ancient woodland listed in Natural England's Ancient Woodland Inventory**

Only 0.8% of Lincolnshire supports ancient, semi-natural woodland, which is approximately half the national average. Not only is this a scarce and declining habitat, but it is impossible to re-create once lost. It is crucial to the biological diversity of Lincolnshire that remaining areas of ancient semi-natural woodland are conserved.

### **WD1a All Plantations on Ancient Woodland Sites (PAWS) listed in Natural England's Ancient Woodland Inventory**

PAWS are woodlands planted on sites identified as previously being ancient woodland (wooded continuously since 1600). PAWS are good candidates for woodland restoration.

### **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 – see Table 1**

During compilation of the Lincolnshire and Humberside Ancient Woodland Inventories, it was recognised that these publications would not be comprehensive for two major reasons. Firstly, only sites of 2 ha or larger were considered, and secondly, it was not possible to follow up preliminary documentary searches with confirmatory field visits. Therefore, WD2 should be used to assess sites smaller than 2 ha and any other semi-natural ancient woodland missing from the relevant inventory.

### **WD3 Woodland not covered by other criteria with a minimum species index score of 10 – see Table 1**

This criterion should be used for all plantations and secondary woodland. However, if woodland is invading another priority habitat, for instance where birch is colonising heathland, it may be more appropriate to consider designation under heathland criteria.

**WD4 Wet woodland with a minimum species index score of 6 using Table 1 and a minimum species index score of 6 using Table 7**

These woodlands are found on poorly drained and/or seasonally wet soils with alder, willow and downy birch dominating the woodland canopy and shrub layer.

**WD5 Parkland or wood pasture at least 1 ha in extent that supports at least one veteran tree**

The primary importance of both parkland and wood pasture is the potential for supporting veteran trees (Read, 2000). These trees can provide suitable habitat for distinctive and important assemblages of fungi, epiphytic ferns, bryophytes and lichens, invertebrates associated with deadwood, bats and birds. Further features of value are younger trees for potential long term habitat continuity, as well as shrubs and other plants providing nectar sources from spring to autumn for deadwood invertebrates.

**W6 Traditional orchard with 5 or more standard fruit and/or nut trees with crown edges no more than 20 m apart**

Traditional orchards are a very rare habitat in Lincolnshire. One estimate gives only 190 ha of orchard in Lincolnshire, most of which is managed in a traditional way.

Traditional orchards are generally dominated by mature/over-mature standard trees growing within permanent grassland at relatively low densities, which allows livestock grazing beneath the orchard canopy. Low-intensity methods of cultivation are usually used such as the absence of pesticides and fertilisers, and often grazing animals are used instead of machines for mowing.

Orchards with trees more widely spaced are classified as relic orchards, and may be suitable sites for restoration through planting of young trees.

**Table 1: Woodland Plants**

The species listed in Table 1 are dominated by those determined by George Peterken to be ancient woodland indicators (Peterken, 2000), following extensive studies in central Lincolnshire. The six rarest indicators have been omitted, and in their place are six species of fern whose presence significantly adds to the nature conservation value of Lincolnshire woods. Each species scores one point.

<b>Scientific Name</b>	<b>English Name</b>
<i>Adoxa moschatellina</i>	Moschatel
<i>Allium ursinum</i>	Ramsons
<i>Anemone nemorosa</i>	Wood Anemone
<i>Athyrium filix-femina</i>	Lady-fern
<i>Blechnum spicant</i>	Hard Fern
<i>Calamagrostis canescens</i>	Purple Small-reed
<i>Campanula latifolia</i>	Giant Bellflower
<i>Campanula trachelium</i>	Nettle-leaved Bellflower
<i>Carex acutiformis</i>	Lesser Pond-sedge
<i>Carex pallescens</i>	Pale Sedge
<i>Carex pendula</i>	Pendulous Sedge
<i>Carex remota</i>	Remote Sedge
<i>Carex strigosa</i>	Thin-spiked Wood-sedge
<i>Carex sylvatica</i>	Wood-sedge
<i>Chrysosplenium alternifolium</i>	Alternate-leaved Golden-saxifrage
<i>Chrysosplenium oppositifolium</i>	Opposite-leaved Golden-saxifrage
<i>Conopodium majus</i>	Pignut
<i>Convallaria majalis</i>	Lily-of-the-Valley
<i>Cornus sanguinea</i>	Dogwood
<i>Corylus avellana</i>	Hazel
<i>Dactylorhiza fuchsii</i>	Common Spotted-orchid
<i>Dipsacus pilosus</i>	Small Teasel
<i>Dryopteris affinis</i>	Scaly Male-fern
<i>Dryopteris carthusiana</i>	Narrow Buckler-fern
<i>Elymus caninus</i>	Bearded Couch
<i>Epilobium obscurum</i>	Short-fruited Willowherb
<i>Epipactis helleborine</i>	Broad-leaved Helleborine
<i>Equisetum sylvaticum</i>	Wood Horsetail
<i>Euonymus europaeus</i>	Spindle
<i>Eupatorium cannabinum</i>	Hemp-agrimony
<i>Fragaria vesca</i>	Wild Strawberry
<i>Frangula alnus</i>	Alder Buckthorn
<i>Galium odoratum</i>	Woodruff
<i>Geum rivale</i>	Water Avens
<i>Humulus lupulus</i>	Hop
<i>Hyacinthoides non-scripta</i>	Bluebell
<i>Hypericum hirsutum</i>	Hairy St John's-wort
<i>Hypericum humifusum</i>	Trailing St John's-wort
<i>Hypericum pulchrum</i>	Slender St John's-wort
<i>Hypericum tetrapterum</i>	Square-stalked St John's-wort
<i>Lamiastrum galeobdolon</i> ssp. <i>montanum</i>	Yellow Archangel
<i>Lathyrus linifolius</i>	Bitter-vetch
<i>Luzula pilosa</i>	Hairy Wood-rush
<i>Luzula sylvatica</i>	Great Wood-rush
<i>Lychnis flos-cuculi</i>	Ragged-Robin
<i>Lysimachia nemorum</i>	Yellow Pimpernel

<i>Lysimachia nummularia</i>	Creeping-Jenny
<i>Lysimachia vulgaris</i>	Yellow Loosestrife
<i>Melampyrum pratense</i>	Common Cow-wheat
<i>Melica uniflora</i>	Wood Melick
<i>Mercurialis perennis</i>	Dog's Mercury
<i>Milium effusum</i>	Wood Millet
<i>Neottia nidus-avis</i>	Bird's-nest Orchid
<i>Ophioglossum vulgatum</i>	Adder's-tongue
<i>Orchis mascula</i>	Early Purple-orchid
<i>Oxalis acetosella</i>	Wood-sorrel
<i>Paris quadrifolia</i>	Herb-Paris
<i>Platanthera chlorantha</i>	Greater Butterfly-orchid
<i>Poa nemoralis</i>	Wood Meadow-grass
<i>Polystichum aculeatum</i>	Hard Shield-fern
<i>Polystichum setiferum</i>	Soft Shield-fern
<i>Populus tremula</i>	Aspen
<i>Potentilla sterilis</i>	Barren Strawberry
<i>Primula vulgaris</i>	Primrose
<i>Prunus avium</i>	Wild Cherry
<i>Quercus petraea</i>	Sessile Oak
<i>Ranunculus auricomus</i>	Goldilocks
<i>Sanicula europaea</i>	Sanicle
<i>Scrophularia nodosa</i>	Common Figwort
<i>Sorbus torminalis</i>	Wild Service-tree
<i>Stachys officinalis</i>	Betony
<i>Stellaria holostea</i>	Greater Stitchwort
<i>Tilia cordata</i>	Small-leaved Lime
<i>Valeriana dioica</i>	Marsh Valerian
<i>Valeriana officinalis</i>	Common Valerian
<i>Veronica montana</i>	Wood Speedwell
<i>Veronica officinalis</i>	Heath Speedwell
<i>Viburnum opulus</i>	Guelder-rose
<i>Vicia sylvatica</i>	Wood Vetch
<i>Viola reichenbachiana</i>	Early Dog-violet

## GRASSLAND (NEUTRAL & CALCAREOUS)

### Habitat status:

Lincolnshire BAP priority habitats:

- Calcareous grassland
- Meadow and pasture
- Grazing marsh
- Road verges

Habitats listed as being of principal importance for the conservation of biological diversity in England (CROW Act 2000, Section 74):

- Coastal and floodplain grazing marsh
- Lowland calcareous grassland
- Lowland meadows

There are probably less than 140 ha of agriculturally unimproved neutral grassland and less than 150 ha of agriculturally unimproved calcareous grassland remaining in Lincolnshire. Coastal grazing marshes formerly supported much neutral grassland (in a mosaic with freshwater and brackish ditches), but the majority is now cultivated and producing arable crops. Furthermore, only a very small proportion of the remaining grazing marsh grassland has retained significant botanical diversity. The botanical interest of roadside verges has also declined drastically in recent decades, largely due to changes in traditional management.

**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 – see Table 2**

Pasture and meadow sites supporting a wide range of species are becoming increasingly uncommon, mainly due to intensification of agricultural techniques and replacement of stock farming with arable and horticultural enterprises. The conservation of species-rich neutral grassland is a critical part of maintaining the biological diversity of Lincolnshire.

**CG1 Semi-natural calcareous grassland at least 0.1 ha in extent, or linear areas at least 50 m long\*, with a minimum species index score of 8 – see Table 3**

Calcareous grassland is one of the most rare and vulnerable habitats in Lincolnshire. Conservation of sites supporting many typical calcareous plant species is particularly important for maintenance of Lincolnshire's biological diversity.

\* Linear sites should be split into sections of approximately 1 km length for recording purposes

### Table 2: Neutral Grassland Plants

Each species scores one point.

#### Scientific Name

*Achillea ptarmica*  
*Alopecurus geniculatus*  
*Alopecurus pratensis*  
*Angelica sylvestris*  
*Anthoxanthum odoratum*  
*Briza media*

#### English Name

Sneezewort  
Marsh Foxtail  
Meadow Foxtail  
Angelica  
Sweet Vernal-grass  
Quaking-grass

<i>Caltha palustris</i>	Marsh-marigold
<i>Cardamine pratensis</i>	Cuckooflower
<i>Carex caryophyllea</i>	Spring-sedge
<i>Carex disticha</i>	Brown Sedge
<i>Carex flacca</i>	Glaucous Sedge
<i>Carex nigra</i>	Common Sedge
<i>Carex ovalis</i>	Oval Sedge
<i>Carex panicea</i>	Carnation Sedge
<i>Centaurea nigra</i>	Common Knapweed
<i>Conopodium majus</i>	Pignut
<i>Cynosurus cristatus</i>	Crested Dog's-tail
<i>Dactylorhiza fuchsii</i>	Common Spotted-orchid
<i>Dactylorhiza praetermissa</i>	Southern Marsh-orchid
<i>Equisetum palustre</i>	Marsh Horsetail
<i>Festuca pratensis</i>	Meadow Fescue
<i>Filipendula ulmaria</i>	Meadowsweet
<i>Galium verum</i>	Lady's Bedstraw
<i>Genista tinctoria</i>	Dyer's Greenweed
<i>Geum rivale</i>	Water Avens
<i>Gnaphalium uliginosum</i>	Marsh Cudweed
<i>Hordeum secalinum</i>	Meadow Barley
<i>Hypochaeris radicata</i>	Cat's-ear
<i>Juncus acutiflorus</i>	Sharp-flowered Rush
<i>Juncus articulatus</i>	Jointed Rush
<i>Lathyrus pratensis</i>	Meadow Vetchling
<i>Leontodon hispidus</i>	Rough Hawkbit
<i>Leontodon saxatilis</i>	Lesser Hawkbit
<i>Leucanthemum vulgare</i>	Oxeye Daisy
<i>Listera ovata</i>	Twayblade
<i>Lotus corniculatus</i>	Bird's-foot-trefoil
<i>Lotus pedunculatus</i>	Greater Bird's-foot-trefoil
<i>Luzula campestris</i>	Field Wood-rush
<i>Lychnis flos-cuculi</i>	Ragged-Robin
<i>Ononis</i> spp.	Restharrow (1 point maximum)
<i>Ophioglossum vulgatum</i>	Adder's-tongue
<i>Orchis morio</i>	Green-winged Orchid
<i>Pimpinella saxifraga</i>	Burnet-saxifrage
<i>Poa pratensis</i>	Smooth Meadow-grass
<i>Potentilla erecta</i>	Tormentil
<i>Primula veris</i>	Cowslip
<i>Ranunculus bulbosus</i>	Bulbous Buttercup
<i>Ranunculus hederaceus</i>	Ivy-leaved Crowfoot
<i>Rhinanthus minor</i>	Yellow Rattle
<i>Sanguisorba officinalis</i>	Great Burnet
<i>Saxifraga granulata</i>	Meadow Saxifrage
<i>Serratula tinctoria</i>	Saw-wort
<i>Silaum silaus</i>	Pepper-saxifrage
<i>Stachys officinalis</i>	Betony
<i>Succisa pratensis</i>	Devil's-bit Scabious
<i>Trifolium fragiferum</i>	Strawberry Clover
<i>Trisetum flavescens</i>	Yellow Oat-grass

**Table 3: Calcareous Grassland Plants**

Each species scores one point, unless otherwise indicated.

<b>Scientific Name</b>	<b>English Name</b>
<i>Anacamptis pyramidalis</i>	Pyramidal Orchid
<i>Anthyllis vulneraria</i>	Kidney Vetch
<i>Asperula cynanchica</i>	Squinancywort
<i>Astragalus danicus</i>	Purple Milk-vetch
<i>Blackstonia perfoliata</i>	Yellow-wort
<i>Brachypodium pinnatum</i>	Tor-grass
<i>Briza media</i>	Quaking-grass
<i>Bromopsis erecta</i>	Upright Brome
<i>Campanula glomerata</i>	Clustered Bellflower
<i>Campanula rotundifolia</i>	Harebell
<i>Carex caryophyllea</i>	Spring-sedge
<i>Carex flacca</i>	Glaucous Sedge
<i>Carlina vulgaris</i>	Carlina Thistle
<i>Centaurea nigra</i>	Common Knapweed
<i>Centaurea scabiosa</i>	Greater Knapweed
<i>Cirsium acaule</i>	Dwarf Thistle
<i>Cirsium eriophorum</i>	Woolly Thistle
<i>Clinopodium acinos</i>	Basil Thyme
<i>Clinopodium vulgare</i>	Wild Basil
<i>Cruciata laevipes</i>	Crosswort
<i>Dactylorhiza fuchsii</i>	Common Spotted-orchid
<i>Daucus carota</i>	Wild Carrot
<i>Euphrasia</i> spp.	Eyebrights (1 point maximum)
<i>Festuca ovina</i>	Sheep's-fescue
<i>Filipendula vulgaris</i>	Dropwort
<i>Fragaria vesca</i>	Wild Strawberry
<i>Galium verum</i>	Lady's Bedstraw
<i>Gentianella amarella</i>	Autumn Gentian
<i>Gymnadenia conopsea</i>	Fragrant Orchid
<i>Helianthemum nummularium</i>	Common Rock-rose
<i>Helictotrichon pratense</i>	Meadow Oat-grass
<i>Helictotrichon pubescens</i>	Downy Oat-grass
<i>Hippocrepis comosa</i>	Horseshoe Vetch
<i>Hypericum perforatum</i>	Perforate St John's-wort
<i>Inula conyzae</i>	Ploughman's-spikenard
<i>Knautia arvensis</i>	Field Scabious
<i>Koeleria macrantha</i>	Crested Hair-grass
<i>Lotus corniculatus</i>	Bird's-foot-trefoil
<i>Linum catharticum</i>	Fairy Flax
<i>Leontodon hispidus</i>	Rough Hawkbit
<i>Odontites vernus</i>	Red Bartsia
<i>Ononis</i> spp.	Restharrow (1 point maximum)
<i>Ophrys apifera</i>	Bee Orchid
<i>Pimpinella saxifraga</i>	Burnet-saxifrage
<i>Plantago media</i>	Hoary Plantain
<i>Polygala vulgaris</i>	Common Milkwort
<i>Primula veris</i>	Cowslip
<i>Reseda lutea</i>	Wild Mignonette
<i>Rhinanthus minor</i>	Yellow Rattle
<i>Sanguisorba minor</i>	Salad Burnet

*Scabiosa columbaria*  
*Serratula tinctoria*  
*Silene vulgaris*  
*Succisa pratensis*  
*Thymus polytrichus*  
*Trisetum flavescens*  
*Viola hirta*

Small Scabious  
Saw-wort  
Bladder Campion  
Devil's-bit Scabious  
Wild Thyme  
Yellow Oat-grass  
Hairy Violet

## HEATHLAND & ACID GRASSLAND

### Habitat status:

Lincolnshire BAP priority habitat:

- Heathland and peatland

Habitats listed as being of principal importance for the conservation of biological diversity in England (CROW Act 2000, Section 74):

- Lowland heathland
- Lowland dry acid grassland

By 1995 the extent of heathland in Lincolnshire was estimated at only 628 ha, an 88% decline since 1920. This trend is now being reversed as a result of investment of resources through the Coversands project but it will be some years before all restored habitat meets LWS criteria.

### **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**

Lowland heath is one of Europe's most threatened habitat types. It has been estimated that 75% of the Western European lowland heath resource is located in England. As a result, the conservation of this habitat is of international importance.

### **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 – see Table 4**

This criterion should allow designation of heathland and acid grassland of significant nature conservation value, but which supports less than 10% heather cover.

\* Linear sites should be split into sections of approximately 1 km length for recording purposes

### **Table 4: Heathland/Acid Grassland Plants**

Each species scores one point.

<b>Scientific Name</b>	<b>English Name</b>
<i>Achillea ptarmica</i>	Sneezewort
<i>Agrostis canina</i>	Velvet Bent
<i>Agrostis vinealis</i>	Brown Bent
<i>Aira caryophyllea</i>	Silver Hair-grass
<i>Aira praecox</i>	Early Hair-grass
<i>Anagallis tenella</i>	Bog Pimpernel
<i>Anchusa arvensis</i>	Bugloss
<i>Arenaria serpyllifolia</i>	Thyme-leaved Sandwort
<i>Calluna vulgaris</i>	Heather
<i>Campanula rotundifolia</i>	Harebell
<i>Carex arenaria</i>	Sand Sedge
<i>Carex nigra</i>	Common Sedge
<i>Carex ovalis</i>	Oval Sedge
<i>Carex pilulifera</i>	Pill Sedge
<i>Cerastium arvense</i>	Field Mouse-ear
<i>Cytisus scoparius</i>	Broom
<i>Dactylorhiza maculata</i>	Heath Spotted-orchid
<i>Danthonia decumbens</i>	Heath-grass

<i>Deschampsia flexuosa</i>	Wavy Hair-grass
<i>Echium vulgare</i>	Viper's Bugloss
<i>Erica cinerea</i>	Bell Heather
<i>Erica tetralix</i>	Cross-leaved Heath
<i>Erodium cicutarium</i>	Common Stork's-bill
<i>Erophila verna</i>	Common Whitlowgrass
<i>Festuca ovina</i>	Sheep's-fescue
<i>Filago minima</i>	Small Cudweed
<i>Filago vulgaris</i>	Common Cudweed
<i>Galium saxatile</i>	Heath Bedstraw
<i>Genista anglica</i>	Petty Whin
<i>Gnaphalium sylvaticum</i>	Heath Cudweed
<i>Hydrocotyle vulgaris</i>	Marsh Pennywort
<i>Hypericum humifusum</i>	Trailing St John's-wort
<i>Hypericum pulchrum</i>	Slender St John's-wort
<i>Hypochaeris radicata</i>	Cat's-ear
<i>Juncus acutiflorus</i>	Sharp-flowered Rush
<i>Juncus squarrosus</i>	Heath Rush
<i>Luzula multiflora</i>	Heath Wood-rush
<i>Molinia caerulea</i>	Purple Moor-grass
<i>Myosotis ramosissima</i>	Early Forget-me-not
<i>Nardus stricta</i>	Mat-grass
<i>Ornithopus perpusillus</i>	Bird's-foot
<i>Pedicularis sylvatica</i>	Lousewort
<i>Pilosella officinarum</i>	Mouse-ear-hawkweed
<i>Polygala serpyllifolia</i>	Heath Milkwort
<i>Potentilla anglica</i>	Trailing Tormentil
<i>Potentilla erecta</i>	Tormentil
<i>Rumex acetosella</i>	Sheep's Sorrel
<i>Salix repens</i>	Creeping Willow
<i>Saxifraga tridactylites</i>	Rue-leaved Saxifrage
<i>Stachys officinalis</i>	Betony
<i>Succisa pratensis</i>	Devil's-bit Scabious
<i>Teesdalia nudicaulis</i>	Shepherd's Cress
<i>Trifolium arvense</i>	Hare's-foot Clover
<i>Trifolium scabrum</i>	Rough Clover
<i>Trifolium striatum</i>	Knotted Clover
<i>Ulex europaeus</i>	Gorse
<i>Viola canina</i>	Heath Dog-violet

## ACID PEATLAND

### Habitat status:

Lincolnshire BAP priority habitat:

- Heathland and peatland

Habitats listed as being of principal importance for the conservation of biological diversity in England (CROW Act 2000, Section 74):

- Lowland raised bog

There is approximately 250 ha of lowland raised bog remaining in Lincolnshire, the majority of which has statutory designations. Crowle Waste is part of the internationally important Humberhead Peatlands SAC: smaller remnant bogs occur on the Isle of Axholme.

### AP1 Acid peatland with a minimum species index score of 5 – see Table 5

Peatland is one of Lincolnshire's most vulnerable and scarce habitat types. It is under particular threat from commercial exploitation and supports a number of rare and endangered species, as well as having historical landscape importance in places such as the Isle of Axholme.

### AP2 Buffer land where sympathetic management of water levels and water quality is essential for the well-being of adjacent acid peatland

Maintenance of well-managed buffer zones around acid peatlands is important, in view of the extreme vulnerability of such sites to lowering of water tables.

### Table 5: Acid Peatland Plants

Each species scores one point, unless otherwise stated.

Scientific Name	English Name
<i>Agrostis canina</i>	Velvet Bent
<i>Anagallis tenella</i>	Bog Pimpernel
<i>Andromeda polifolia</i>	Bog Rosemary
<i>Calluna vulgaris</i>	Heather
<i>Carex binervis</i>	Green-ribbed Sedge
<i>Carex curta</i>	White Sedge
<i>Carex echinata</i>	Star Sedge
<i>Carex panicea</i>	Carnation Sedge
<i>Carex pilulifera</i>	Pill Sedge
<i>Carex pulicaris</i>	Flea Sedge
<i>Carex viridula</i>	Yellow-sedge
<i>Dactylorhiza maculata</i>	Heath Spotted-orchid
<i>Danthonia decumbens</i>	Heath-grass
<i>Drosera rotundifolia</i>	Round-leaved Sundew
<i>Erica cinerea</i>	Bell Heather
<i>Erica tetralix</i>	Cross-leaved Heath
<i>Eriophorum angustifolium</i>	Common Cottongrass
<i>Eriophorum vaginatum</i>	Hair's-tail Cottongrass
<i>Hydrocotyle vulgaris</i>	Marsh Pennywort
<i>Isolepis setacea</i>	Bristle Club-rush
<i>Juncus acutiflorus</i>	Sharp-flowered Rush
<i>Juncus bufonius</i>	Toad Rush

<i>Juncus bulbosus</i>	Bulbous Rush
<i>Juncus squarrosus</i>	Heath Rush
<i>Menyanthes trifoliata</i>	Bogbean
<i>Molinia caerulea</i>	Purple Moor-grass
<i>Myrica gale</i>	Bog Myrtle
<i>Narthecium ossifragum</i>	Bog Asphodel
<i>Pedicularis sylvatica</i>	Lousewort
<i>Potentilla palustris</i>	Marsh Cinquefoil
<i>Salix repens</i>	Creeping Willow
<i>Scutellaria minor</i>	Lesser Skullcap
<i>Sphagnum</i> spp.	Bog Mosses (1 point maximum)
<i>Stellaria uliginosa</i>	Bog Stitchwort
<i>Succisa pratensis</i>	Devil's-bit Scabious
<i>Trichophorum cespitosum</i>	Deergrass
<i>Vaccinium oxycoccus</i>	Cranberry

## PURPLE MOOR GRASS AND RUSH PASTURE

### Habitat status:

Lincolnshire BAP priority habitat:

- Heathland and peatland

Habitats listed as being of principal importance for the conservation of biological diversity in England (CROW Act 2000, Section 74):

- Purple Moor Grass and Rush Pasture

Purple moor grass and rush pastures occur on poorly drained, usually acidic soils in lowland areas of high rainfall in western Europe.

### PMG1 Purple Moor Grass and Rush Pasture with a minimum species index score of 8 – see Table 6

Purple moor grass and rush pastures are a priority for nature conservation because they are highly susceptible to agricultural modification and reclamation throughout their range. Their vegetation, which has a distinct character, consists of various species-rich types of fen meadow and rush pasture. Purple moor grass *Molinia caerulea*, and rushes, especially sharp-flowered rush *Juncus acutiflorus*, are usually abundant.

**Table 6: Purple Moor Grass and Rush Pasture Plants**

Each species scores one point, unless otherwise stated.

Scientific Name	English Name
<i>Achillea ptarmica</i>	Sneezewort
<i>Ajuga reptans</i>	Bugle
<i>Anagallis tenella</i>	Bog Pimpernel
<i>Angelica sylvestris</i>	Wild Angelica
<i>Berula erecta</i>	Lesser Water-parsnip
<i>Cirsium dissectum</i>	Meadow Thistle
<i>Crepis paludosa</i>	Marsh Hawk's-beard
<i>Erica tetralix</i>	Cross-leaved Heath
<i>Eupatorium cannabinum</i>	Hemp-agrimony
<i>Filipendula ulmaria</i>	Meadowsweet
<i>Galium palustre</i>	Common Marsh-bedstraw
<i>Galium uliginosum</i>	Fen Bedstraw
<i>Geum rivale</i>	Water Avens
<i>Hydrocotyle vulgaris</i>	Marsh Pennywort
<i>Juncus acutiflorus</i>	Sharp-flowered Rush
<i>Juncus articulatus</i>	Jointed Rush
<i>Juncus subnodulosus</i>	Blunt-flowered Rush
<i>Leontodon hispidus</i>	Rough Hawkbit
<i>Lotus pedunculatus</i>	Large Bird's-foot-trefoil
<i>Lychnis flos-cuculi</i>	Ragged-Robin
<i>Mentha aquatica</i>	Water Mint
<i>Molinia caerulea</i>	Purple Moor-grass
<i>Narthecium ossifragum</i>	Bog Asphodel
<i>Platanthera chlorantha</i>	Greater Butterfly-orchid
<i>Pedicularis sylvatica</i>	Lousewort
<i>Potentilla erecta</i>	Tormentil
<i>Potentilla palustris</i>	Marsh Cinquefoil

*Ranunculus flammula*  
*Sanguisorba officinalis*  
*Succisa pratensis*  
*Thalictrum flavum*  
*Valeriana dioica*  
*Valeriana officinalis*  
*Viola palustris*

Lesser Spearwort  
Great Burnet  
Devil's-bit Scabious  
Common Meadow-rue  
Marsh Valerian  
Common Valerian  
Marsh Violet

## FRESH WATER

### Habitat status:

Lincolnshire BAP priority habitats:

- Chalk streams (including blow wells\*)
- Ponds, lakes and reservoirs
- Rivers, canals and drains
- Springs and flushes

\* Blow wells will be covered under Local Geodiversity Site Guidelines

Habitats listed as being of principal importance for the conservation of biological diversity in England (CROW Act 2000, Section 74):

- Chalk rivers
- Eutrophic standing water
- Mesotrophic standing water

Additional UK BAP priority habitats (2007):

- Ponds

Lincolnshire contains a wide range of freshwater habitats including chalk springs and streams on the Wolds, the River Trent, the network of drains and ditches in the fens, gravel pits, reservoirs, lakes and ponds.

### **Flo1 Springs, flushes, headwaters and winterbournes of high importance for their communities of fish or invertebrates - Community Conservation Index (CCI) of 15 or above**

Many notable sites containing calcareous flowing water are likely to be covered by this criterion, although non-calcareous flowing water may also qualify. Of key importance are populations of fish such as brown trout, bullhead, grayling, stone loach, spined loach and brook lamprey. Other significant fauna include Atlantic stream crayfish, soldier flies, caddis flies and flattened mayfly.

### **Flo2 Rivers, streams, canals, drains and ditches\* of high importance for their communities of fish or invertebrates - CCI of 15 or above**

All types of flowing water can be considered under this criterion.

### **Flo3 Rivers, streams, canals, drains and ditches\* with a minimum species index score of 10 – see Table 7**

All types of flowing water can be considered under this criterion, which is entirely based on botanical characteristics.

### **Flo4 Flowing water with a CCI of 10-14, and a minimum species index score of 6**

The presence of significant fauna will add to the botanical interest of all types of flowing water

\* Linear sites should be split into sections of approximately 1 km length for recording purposes

**Sta1 Standing water of high importance for their communities of fish or invertebrates - Community Conservation Index (CCI) of 15 or above**

All standing waters except garden ponds can be considered under this criterion.

**Sta2 Standing water with a minimum species index score of 8 – see Table 7**

All standing waters except garden ponds can be considered under this criterion, which is entirely based on botanical characteristics.

**Sta3 Standing water with a CCI of 10-14, and a minimum species index score of 5**

The presence of significant fauna will add to the botanical interest of all types of standing water (garden ponds will not be considered)

**Table 7: Freshwater Algae and Plants**

Each species scores one point, unless otherwise indicated.

<b>Scientific Name</b>	<b>English Name</b>
<i>Alisma gramineum</i>	Ribbon-leaved Water-plantain
<i>Alisma plantago-aquatica</i>	Water-plantain
<i>Berula erecta</i>	Lesser Water-parsnip
<i>Butomus umbellatus</i>	Flowering Rush
<i>Callitriche</i> spp.	Water-starworts (1 point maximum)
<i>Carex acutiformis</i>	Lesser Pond-sedge
<i>Carex elata</i>	Tufted-sedge
<i>Carex riparia</i>	Greater Pond-sedge
<i>Ceratophyllum demersum</i>	Rigid Hornwort
Characeae	Stoneworts (3 point maximum)
<i>Eleocharis acicularis</i>	Needle Spike-rush
<i>Eleocharis palustris</i>	Common Spike-rush
<i>Equisetum fluviatile</i>	Water Horsetail
<i>Equisetum palustre</i>	Marsh Horsetail
<i>Glyceria fluitans</i>	Floating Sweet-grass
<i>Glyceria maxima</i>	Reed Sweet-grass
<i>Glyceria notata</i>	Plicate Sweet-grass
<i>Groenlandia densa</i>	Opposite-leaved Pondweed
<i>Hippuris vulgaris</i>	Mare's-tail
<i>Hottonia palustris</i>	Water-violet
<i>Iris pseudacorus</i>	Yellow Iris
<i>Lemna gibba</i>	Fat Duckweed
<i>Lemna trisulca</i>	Ivy-leaved Duckweed
<i>Lychnis flos-cuculi</i>	Ragged-Robin
<i>Lythrum salicaria</i>	Purple Loosestrife
<i>Mentha aquatica</i>	Water Mint
<i>Menyanthes trifoliata</i>	Bogbean
<i>Myosotis laxa</i>	Tufted Forget-me-not
<i>Myriophyllum spicatum</i>	Spiked Water-milfoil
<i>Nuphar lutea</i>	Yellow Water-lily
<i>Oenanthe aquatica</i>	Fine-leaved Water-dropwort
<i>Oenanthe fistulosa</i>	Tubular Water-dropwort
<i>Oenanthe fluviatilis</i>	River Water-dropwort
<i>Oenanthe lachenalii</i>	Parsley Water-dropwort

<i>Phalaris arundinacea</i>	Reed Canary-grass
<i>Phragmites australis</i>	Common Reed
<i>Potamogeton berchtoldii</i>	Small Pondweed
<i>Potamogeton coloratus</i>	Fen Pondweed
<i>Potamogeton crispus</i>	Curled Pondweed
<i>Potamogeton lucens</i>	Shining Pondweed
<i>Potamogeton natans</i>	Broad-leaved Pondweed
<i>Potamogeton pectinatus</i>	Fennel-leaved Pondweed
<i>Potamogeton perfoliatus</i>	Perfoliate Pondweed
<i>Potamogeton pusillus</i>	Lesser Pondweed
<i>Potamogeton trichoides</i>	Hairlike Pondweed
<i>Ranunculus aquatilis</i>	Common Water-crowfoot
<i>Ranunculus circinatus</i>	Fan-leaved Water-crowfoot
<i>Ranunculus fluitans</i>	River Water-crowfoot
<i>Ranunculus peltatus</i>	Pond Water-crowfoot
<i>Ranunculus penicillatus</i>	Stream Water-crowfoot
<i>Ranunculus trichophyllus</i>	Thread-leaved Water-crowfoot
<i>Rorippa nasturtium-aquaticum</i> agg.	Water Cress
<i>Rumex hydrolapathum</i>	Water Dock
<i>Sagittaria sagittifolia</i>	Arrowhead
<i>Schoenoplectus lacustris</i>	Common Club-rush
<i>Schoenoplectus tabernaemontani</i>	Grey Club-rush
<i>Scrophularia auriculata</i>	Water Figwort
<i>Sparganium emersum</i>	Unbranched Bur-reed
<i>Sparganium erectum</i>	Branched Bur-reed
<i>Stachys palustris</i>	Marsh Woundwort
<i>Thalictrum flavum</i>	Common Meadow-rue
<i>Typha angustifolia</i>	Lesser Bulrush
<i>Typha latifolia</i>	Bulrush
<i>Utricularia</i> spp.	Bladderworts
<i>Veronica anagallis-aquatica</i>	Blue Water-speedwell
<i>Veronica beccabunga</i>	Brooklime
<i>Veronica catenata</i>	Pink Water-speedwell
<i>Zannichellia palustris</i>	Horned Pondweed

## SWAMP, MARSH AND FEN

### Habitat status:

Lincolnshire BAP priority habitat:

- Fens, reedbeds and swamp

Habitats listed as being of principal importance for the conservation of biological diversity in England (CROW Act 2000, Section 74):

- Reedbeds
- Fens

Whilst the extent of reedbed habitat has increased in recent years in Lincolnshire, and elsewhere, there is no precise information on other wetland habitats. Within the Fens Natural Area almost all remaining fenland habitat is in nature reserves.

**Sw1 Wet reedbeds at least 0.5 ha in extent, where the vegetated element comprises at least 90% common reed**

Lincolnshire supports a number of important reedbed sites and dependent species, and it is therefore important to conserve the habitat.

**Sw2 Other swamp, marsh or fen at least 0.5 ha in extent, with a minimum species index score of 8 – see Table 8**

**Sw3 Other swamp, marsh or fen of high importance for their communities of invertebrates - Community Conservation Index (CCI) of 15 or above**

**Sw4 Standing water with a CCI of 10-14, and a minimum species index score of 5**

Sites subject to these criteria are located in poorly drained areas, some of which are adjacent to natural or artificial water bodies. All such wetlands are vulnerable to a range of threats, and many have become important refuges for uncommon and/or declining species of flora and fauna.

### Table 8: Swamp, Marsh and Fen Plants

Each species scores one point.

Scientific Name	English Name
<i>Angelica sylvestris</i>	Angelica
<i>Apium nodiflorum</i>	Fool's-water-cress
<i>Berula erecta</i>	Lesser Water-parsnip
<i>Caltha palustris</i>	Marsh-marigold
<i>Cardamine pratensis</i>	Cuckooflower
<i>Carex distans</i>	Distant Sedge
<i>Carex disticha</i>	Brown Sedge
<i>Carex elata</i>	Tufted-sedge
<i>Carex hostiana</i>	Tawny Sedge
<i>Carex nigra</i>	Common Sedge
<i>Carex otrubae</i>	False Fox-sedge
<i>Carex panicea</i>	Carnation Sedge
<i>Carex paniculata</i>	Greater Tussock-sedge
<i>Carex pseudocyperus</i>	Cyperus Sedge
<i>Carex rostrata</i>	Bottle Sedge

<i>Carex vesicaria</i>	Bladder-sedge
<i>Carex viridula</i>	Yellow-sedge
<i>Chrysosplenium alternifolium</i>	Alternate-leaved Golden-saxifrage
<i>Chrysosplenium oppositifolium</i>	Opposite-leaved Golden-saxifrage
<i>Dactylorhiza incarnata</i>	Early Marsh-orchid
<i>Dactylorhiza praetermissa</i>	Southern Marsh-orchid
<i>Eleocharis palustris</i>	Common Spike-rush
<i>Equisetum fluviatile</i>	Water Horsetail
<i>Equisetum palustris</i>	Marsh Horsetail
<i>Equisetum telmateia</i>	Great Horsetail
<i>Eupatorium cannabinum</i>	Hemp-agrimony
<i>Filipendula ulmaria</i>	Meadowsweet
<i>Galium uliginosum</i>	Fen Bedstraw
<i>Geum rivale</i>	Water Avens
<i>Hottonia palustris</i>	Water-violet
<i>Hydrocotyle vulgaris</i>	Marsh Pennywort
<i>Hypericum tetrapterum</i>	Square-stalked St John's-wort
<i>Iris pseudacorus</i>	Yellow Iris
<i>Juncus acutiflorus</i>	Sharp-flowered Rush
<i>Juncus subnodulosus</i>	Blunt-flowered Rush
<i>Lathyrus palustris</i>	Marsh Pea
<i>Lychnis flos-cuculi</i>	Ragged-Robin
<i>Lycopus europaeus</i>	Gypsywort
<i>Lysimachia nemorum</i>	Yellow Pimpernel
<i>Lysimachia nummularia</i>	Creeping-Jenny
<i>Lysimachia vulgaris</i>	Yellow Loosestrife
<i>Lythrum salicaria</i>	Purple Loosestrife
<i>Mentha aquatica</i>	Water Mint
<i>Menyanthes trifoliata</i>	Bogbean
<i>Myosotis scorpioides</i>	Water Forget-me-not
<i>Oenanthe fistulosa</i>	Tubular Water-dropwort
<i>Phalaris arundinacea</i>	Reed Canary-grass
<i>Phragmites australis</i>	Common Reed
<i>Pulicaria dysenterica</i>	Common Fleabane
<i>Ranunculus flammula</i>	Lesser Spearwort
<i>Sanguisorba officinalis</i>	Great Burnet
<i>Scrophularia auriculata</i>	Water Figwort
<i>Scutellaria galericulata</i>	Skullcap
<i>Sparganium erectum</i>	Branched Bur-reed
<i>Stachys palustris</i>	Marsh Woundwort
<i>Stellaria palustris</i>	Marsh Stitchwort
<i>Succisa pratensis</i>	Devil's-bit Scabious
<i>Thalictrum flavum</i>	Common Meadow-rue
<i>Triglochin palustre</i>	Marsh Arrow-grass
<i>Valeriana dioica</i>	Marsh Valerian
<i>Viola palustris</i>	Marsh Violet

## COASTAL AND ESTUARINE HABITATS

### Habitat status:

Lincolnshire BAP priority habitats:

- Coastal sand dunes
- Saline lagoons
- Saltmarsh

Habitats listed as being of principal importance for the conservation of biological diversity in England (CROW Act 2000, Section 74):

- Coastal sand dunes
- Coastal saltmarsh
- Mudflats
- Saline lagoons

There are approximately 380 ha of sand dune, 4,000 ha of saltmarsh, 38,000 ha of intertidal flats and 21 saline lagoons around the coast of Lincolnshire. Much of the coast is protected by international conservation designations.

### **Co1 Saltmarsh at least 0.5 ha in extent; or linear, riverside saltmarsh at least 50 m long**

Lincolnshire supports a nationally important saltmarsh resource.

### **Co2 Mudflats at least 0.5 ha in extent; or linear, riverside mudflats at least 50 m long**

Lincolnshire supports a nationally important mudflat resource.

### **Co3 Coastal sand dunes and dune grassland at least 0.5 ha in extent**

Coastal sand dune habitat is important for its dune grassland and dune slack flora. Due to recreational and development pressure and lack of sympathetic management, this is the most threatened of the Lincolnshire coastal habitats.

### **SL1 All saline lagoons**

Saline lagoons are natural or man-made bodies of saline or brackish water partially separated from the sea. They represent a rare and diminishing type of habitat in the UK and in Europe generally, and support a highly specialised flora and invertebrate fauna, including several rare species. Twenty one sites with lagoon characteristics have been identified in Lincolnshire along the Humber, the north-east coast and The Wash. Most of them are less than 3 ha in extent. Three rare invertebrates found in sites protected by SSSI status are tentacled lagoon-worm, lagoon sand shrimp and certain spire snails. All saline lagoons are likely to support sea club-rush and common reed, while other species that occur in saline or brackish water are brackish water-crowfoot, beaked tasselweed, spiral tasselweed, fennel pondweed, spiked water-milfoil and wild celery.

## **MOSAICS**

This section applies where a collection of adjacent habitats is of importance for flora and/or fauna, even though some or all of the constituent parts fail to meet habitat criteria. Conservation of habitat mosaics is essential for many species of invertebrate and other animals that require a range of different habitats or niches within a limited distance, in order that they can successfully complete their life cycles. For example, great crested newts need a pond for breeding, occupy hedgerows during hibernation, and use grassland for foraging.

**Mos1 Areas of at 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**

This criterion recognises that fact that habitat diversity is good for species diversity. It should be used to designate adjacent areas of different habitat, where not all are of LWS quality on their own, but together they represent a valuable wildlife resource.

**Mos2 Areas of at least 0.1 ha that add to the wildlife value of adjacent land qualifying for LWS designation on habitat grounds**

An area designated as a LWS on habitat grounds may not support the full range of conditions needed by certain species to complete their life cycles. Where this is the case, it is important to consider drawing the site boundary to include additional adjacent habitat, if it provides conditions that would benefit the flora and fauna on the other land.

This criterion may, for example, be used to designate complementary habitat adjacent to stream or river LWSs, particularly wetland.

**Mos3 Linear features no more than 500 m long connecting sites of LWS status**

Where LWSs are almost adjacent, this criterion allows inclusion within the site boundary of intervening land which provides connectivity within the landscape and acts as a corridor for movement of species.

**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**

Sites that fall below the qualifying threshold on botanical characteristics may have additional positive features that are of nature conservation interest (see Site Survey Form for examples), or support significant populations of rare or protected species. This criterion should only be used where there is strong evidence of the substantive nature conservation value of the site.

## **ANNEX 1 - SITE SURVEY FORM**

NB: For use in the field, the relevant BSBI species list should be printed on the reverse side of the recording form. These species lists can be downloaded from the BSBI website:

North Lincolnshire - [www.bsbi.org.uk/VC54.pdf](http://www.bsbi.org.uk/VC54.pdf)

South Lincolnshire - [www.bsbi.org.uk/VC53.pdf](http://www.bsbi.org.uk/VC53.pdf)

Site name	Grid reference						<b>Lincolnshire Environmental Records Centre</b>
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Site sub-division	Date						
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Recorder(s)	Time on site						
	hrs			mins			

### Habitats (M = main, A = additional)

Woodland – semi-nat / plantation	<input type="checkbox"/>
Wet Woodland	<input type="checkbox"/>
Parkland / Wood-pasture / Orchard	<input type="checkbox"/>
Scrub – scattered / dense	<input type="checkbox"/>
Neutral Grassland – Unimp / Semi-imp	<input type="checkbox"/>
Calcareous Grassland – Unimp / Semi-imp	<input type="checkbox"/>
Acid Grassland – Unimp / Semi-imp	<input type="checkbox"/>
Damp Grassland / Marsh / Fen	<input type="checkbox"/>
Purple Moor Grass and Rush Pasture	<input type="checkbox"/>
Heathland / Acid Peatland	<input type="checkbox"/>
Bracken	<input type="checkbox"/>

Running Water	<input type="checkbox"/>
Spring / Flush / Blow Well	<input type="checkbox"/>
Standing Water / Pond	<input type="checkbox"/>
Reedbed	<input type="checkbox"/>
Grazing Marsh	<input type="checkbox"/>
Sand Dune / Saline Lagoon	<input type="checkbox"/>
Saltmarsh / Mudflat	<input type="checkbox"/>
Brownfield Mosaic	<input type="checkbox"/>
Ruderal	<input type="checkbox"/>
Arable / Improved Grassland	<input type="checkbox"/>

### Constraints

Early / Late survey	<input type="checkbox"/>
Short visit / Weather	<input type="checkbox"/>
Hay cut	<input type="checkbox"/>
Terrain / Vegetation	<input type="checkbox"/>
Dogs / Grazing / Game	<input type="checkbox"/>

### NI 197

Management Plan	<input type="checkbox"/>
Advice being followed	<input type="checkbox"/>
Woodland Grant Scheme	<input type="checkbox"/>
HLS / ELS / OEL	<input type="checkbox"/>

### Site description (including fauna; rare/notable spp (with grid refs.); etc – note if supplementary sheets attached)

### Additional features

Veteran / pollarded trees	<input type="checkbox"/>
Planted specimen trees	<input type="checkbox"/>
Standing / fallen dead wood	<input type="checkbox"/>
Sap runs on / holes in trees	<input type="checkbox"/>
Tussocky vegetation	<input type="checkbox"/>
Abundant nectar sources	<input type="checkbox"/>
Structural diversity	<input type="checkbox"/>

Anthills	<input type="checkbox"/>
Bare ground	<input type="checkbox"/>
Rock outcrops	<input type="checkbox"/>
Steep slopes	<input type="checkbox"/>
South facing slopes	<input type="checkbox"/>
Ridge and furrow	<input type="checkbox"/>

Areas with frequent / prolonged flooding	<input type="checkbox"/>
Seasonally wet / damp areas	<input type="checkbox"/>
Earthworks / hummocky ground	<input type="checkbox"/>
Ditches – shallow / deep	<input type="checkbox"/>
Hedgerows – spp rich / poor	<input type="checkbox"/>
Access / visibility	<input type="checkbox"/>
Educational potential	<input type="checkbox"/>

### Management

Appropriate management	<input type="checkbox"/>
Inappropriate management	<input type="checkbox"/>
Scrub encroachment	<input type="checkbox"/>
Scrub removal	<input type="checkbox"/>
Coppicing / selective felling	<input type="checkbox"/>
Re-planting – native / non-native	<input type="checkbox"/>
Ride mowing (woodland)	<input type="checkbox"/>
Non-intervention (woodland)	<input type="checkbox"/>

No grazing / cutting	<input type="checkbox"/>
Grazing by cattle	<input type="checkbox"/>
Grazing by sheep	<input type="checkbox"/>
Grazing by horses	<input type="checkbox"/>
Grazing by rabbits	<input type="checkbox"/>
Other grazing	<input type="checkbox"/>
Poaching	<input type="checkbox"/>
Controlled burning	<input type="checkbox"/>

Silage / hay / hay with grazing	<input type="checkbox"/>
Mowing and non-removal	<input type="checkbox"/>
Frequent short mowing	<input type="checkbox"/>
Fertiliser / pesticide / herbicide use	<input type="checkbox"/>
Excessive drainage	<input type="checkbox"/>
Off-road vehicle damage	<input type="checkbox"/>
Fly tipping / pollution / fires	<input type="checkbox"/>
Invasive species	<input type="checkbox"/>

## **ANNEX 2 - SURVEY METHODOLOGY**

### **Data Recording**

In order to assess the value of potential LWSs, it is usually necessary to undertake a botanical survey. All identifiable fauna and relevant site features should also be noted. May to September is the best period for surveying higher plants, although April, October and November visits may also be acceptable. The recommended recording procedure can be considered in three stages:

#### **Before Visiting**

1. Identify the owner(s) and anyone else involved in management of the site (hereafter referred to as 'the owner').
2. Contact the owner, ideally by a letter covering relevant background information. Follow up, if necessary, by telephone or possibly a face-to-face meeting.
3. Request permission to visit.
4. If request is refused, do not visit the site.
5. If request is accepted, agree a visit procedure with the owner.
6. If it is feasible, discuss management issues with the owner.
7. Record all the above details for future reference.
8. Look at available data about the site and use it as a basis for the forthcoming site visit.
9. Take to the site: recording forms; a copy of any previous boundary map and supporting text, if relevant; a copy of a base map (particularly for new sites); a copy of appropriate aerial photography (optional); a 1:25,000 map of the area; owner contact details; instructions from the owner; pencils and paper; a clipboard with a waterproof covering; evidence of identification; appropriate outdoor clothing and binoculars.

#### **On Site**

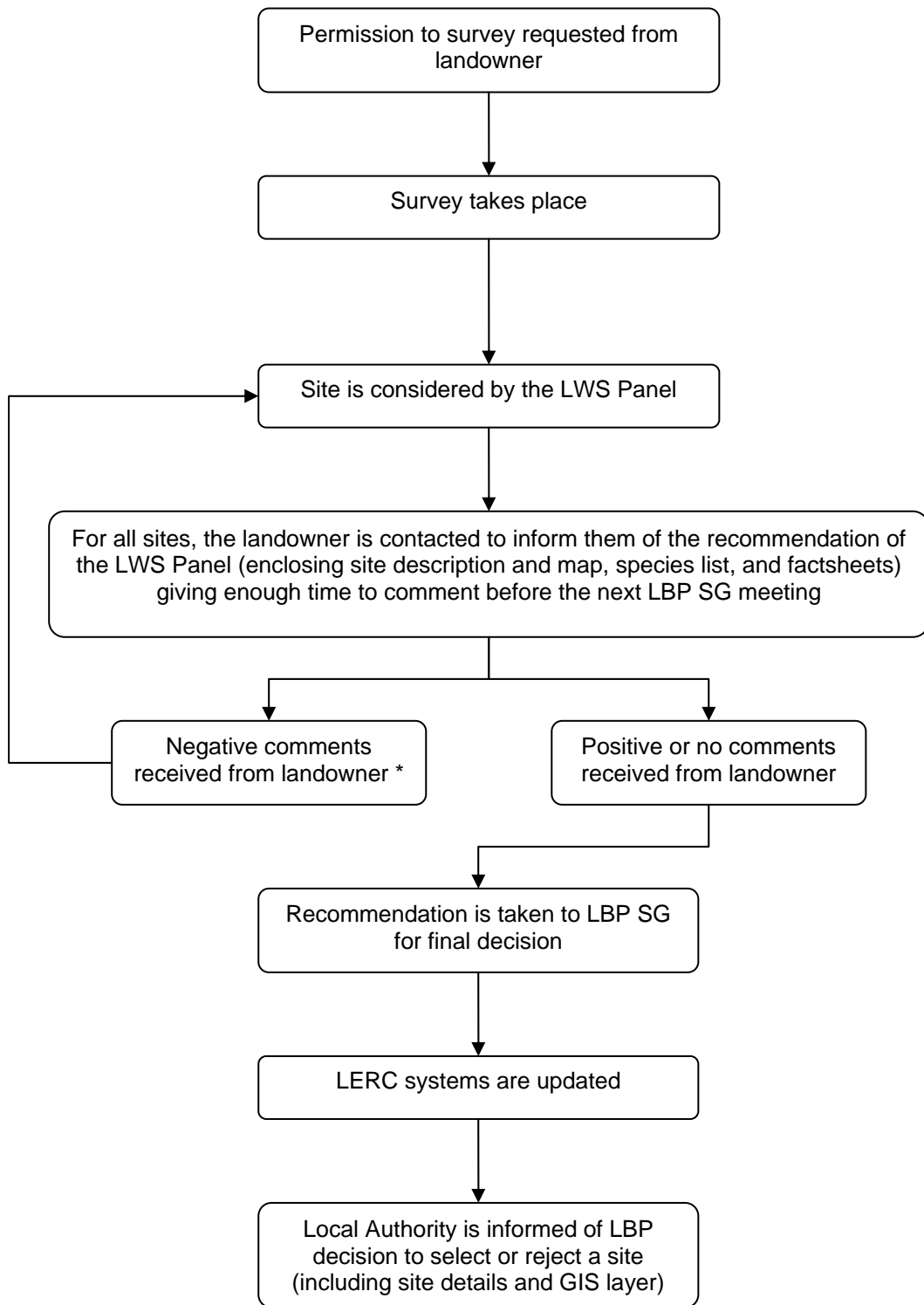
10. Follow all reasonable requests of the owner, such as meeting beforehand.
11. Assess approach to survey. Linear sites should be split into 1 km long sub-sites. Individual fields can also be sub-sites, although some may need to be further sub-divided.
12. In each site or sub-site, fill in one recording form (see Annex 2) as fully as possible. Key elements of the process are as follows:
  - Record all identifiable plant species using the BSBI list of abbreviated scientific names.
  - Fill in all the boxes in the top section.
  - Tick boxes dealing with habitats, constraints, NI197, additional features and management. Main and additional habitats should be indicated by using "M" or "A" in the box. Many boxes have multiple options which should be deleted where not applicable.
  - In the site description box, describe the site and its wildlife interest, including identified fauna, potential for other fauna, and further detail relating to ticked boxes.
  - Add a sketch, if it would be helpful.
  - Annotate the base map to show internal and external boundaries and significant features.
  - Record the surveyor's opinion of any need for further survey work in specified taxa.

### **After the Survey**

13. Provide LERC with field data and other relevant data, who will then compile descriptions, species lists and maps for sites and sub-sites.
14. Ensure that every owner and occupier has the opportunity to receive copies of data concerning their land and to discuss management issues.

Publicly held recent data can be used for LWS assessment, even if it has been obtained for other purposes. Examples include data submitted as part of an Environmental Statement or a planning application, or data acquired by local authorities using their powers to enter land for the purpose of preparing a Local Development Framework.

**ANNEX 3 – FLOW CHART SHOWING SITE SELECTION PROCEDURE**



\* If landowner issues cannot be resolved by the LWS Panel, then the LBP Steering Group is the final arbiter.

## ANNEX 4 – SELECTION CRITERIA QUICK REFERENCE

WD1	All semi-natural ancient woodland listed in Natural England's Ancient Woodland Inventory
WD1a	All Plantations on Ancient Woodland Sites (PAWS) listed in Natural England's Ancient Woodland Inventory
WD2	Woodland with characteristics of semi-natural ancient woodland that does not appear in an 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 woodland species index score of 6 <u>and</u> a minimum swamp/marsh/fen species index score of 6
WD5	Parkland or wood pasture at least 1 ha in extent that supports at least one veteran tree
WD6	Traditional orchard
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
CG1	Semi-natural calcareous grassland at least 0.1 ha in extent, or linear areas at least 50 m long, with a minimum species index score of 8
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
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 well-being of adjacent acid peatland
PMG1	Purple Moor Grass and Rush Pasture with a minimum species index score of 8
Flo1	Springs, flushes, headwaters and winterbournes of high importance for their communities of fish or invertebrates - 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	Other 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 species index score of 6
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
- 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 Standing water with a CCI of 10-14, and a minimum species index score of 5
- Co1 Saltmarsh at least 0.5 ha in extent; or linear, tidal, riverside saltmarsh at least 50 m long
- Co2 Mudflats at least 0.5 ha in extent; or linear, tidal, riverside mudflats at least 50 m long
- Co3 Coastal sand dunes and dune grassland at least 0.5 ha in extent
- SL1 All saline lagoons
- Mos1 Areas of at 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

## ANNEX 5 – SPECIMEN LETTER REQUESTING PERMISSION TO SURVEY

Dear *Landowner's name*

### Wildlife Surveys in *local authority area*

I work for *organisation name* and have been contracted by *local authority* (contact: *contact name* of the *department*) to carry out various wildlife surveys this spring and summer. My reason for writing is to request permission to survey the flora and fauna of land which I believe you own/manage.

The survey will concentrate on botanical recording and general assessment of a range of habitats, although note will also be taken of birds, butterflies, dragonflies and other fauna. In most cases, the fieldwork is completed on a single visit.

The results of the survey, including a species lists, site description, and map, will be sent to you (although, because of the nature of the field season, this may not be until next year). This information will be managed by Lincolnshire Environmental Records Centre, on behalf of Lincolnshire Biodiversity Partnership. The information will be used by Lincolnshire Biodiversity Partnership, via its Local Wildlife Sites Panel, to assess if any part of the site merits selection as a Local Wildlife Site. If this is the case, you will be informed, and given the opportunity to make observations. The current guidelines for selection of Local Wildlife Sites can be viewed on the Lincolnshire Biodiversity Partnership website ([www.lincsbiodiversity.org.uk](http://www.lincsbiodiversity.org.uk)).

Two frequently asked questions about Local Wildlife Sites are: “Will I be forced to adopt particular management or use of my land?” and “Will the land be subject to greater public access?” In response, I can reassure you that you would still be free to manage the land as you wish, and there would be no change in rights-of-access. Instead, Local Wildlife Site selection provides recognition of the value of land for its plants, animals and habitats, and of the positive management it has received. Furthermore, the data obtained is available for you to use when applying for relevant grants and perhaps planning applications. It would be highly desirable to be allowed to undertake monitoring visits every 5-10 years.

*Local authority* has asked me conduct this survey because recent changes in legislation emphasise the significance of Local Wildlife Sites and other wildlife-rich areas within the planning system. Therefore, during consideration of any planning matter, the local authority will check to see if a Local Wildlife Site could be involved. If the answer is yes, the authority is obliged to consider carefully any potential impacts before making a decision. This does not mean that development cannot go ahead, but it does help to ensure that important habitats and species are taken into account during decision-making, along with all other material considerations. Surveys of suitable sites would have to be carried out anyway, unless they had previously been identified as Local Wildlife Sites, and so this information can simplify and speed up the assessment process.

I hope the above adequately explains the background to my request, but if you have any queries please contact me, or *contact name* at *local authority* (direct telephone number: *00000 000000*). If you are happy for the survey to take place, I will fit in with any requirements you may have, such as letting you know when I arrive and depart, minimising disturbance to game, and taking precautions to avoid safety hazards. If it is feasible, I would like to carry out the surveys as soon as possible.

I look forward to hearing from you.

Yours sincerely

## ANNEX 6 – SPECIMEN LETTERS INFORMING LANDOWNERS OF LWS PANEL RECOMMENDATION

### RECOMMENDATION FOR SELECTION

Dear *Landowner's name*

#### Lincolnshire Local Wildlife Sites Review Site Name:

You may remember that *surveyor's name* of *organisation name* visited your site in *month year*, on behalf of *local authority*. Enclosed are species lists and site information relating to that survey.

One of the reasons for the visit was to identify potential Local Wildlife Sites (LWSs). These are areas which stand out as being of particular value for their wildlife, and this importance is recognised within the planning system. Guidelines for the selection of LWSs were developed by organisations represented on the Lincolnshire Biodiversity Partnership (LBP). These guidelines can be viewed on the website [www.lincsbiodiversity.org.uk](http://www.lincsbiodiversity.org.uk).

The LBP Local Wildlife Sites Panel has assessed the information on *site name* against the guidelines and has found that the area meets the following selection criteria:

#### **add selection criteria**

The species index scores relate to tables within the guidelines.

[*The area is also recognised as being of significant importance for ...*]

[At present *site name* is listed on the Local Authority Local Plan as a *Site of Nature Conservation Importance (SNCI)*. The LWS designation supersedes the *SNCI* designation for those sites which meet the selection criteria.]

**The Local Wildlife Sites Panel will be recommending to the Lincolnshire Biodiversity Partnership that the area should be selected as a Local Wildlife Site.**

This is a recognition of the value of your land for wildlife. It will not affect how you choose to manage your land, and does not bestow any additional public right of access.

If agreed by the Lincolnshire Biodiversity Partnership Steering Group, this recommendation will be passed to the Local Authority to enable it to update its records, and to add the site to the list of Local Wildlife Sites included in the Local Development Framework.

Information on the site is held by the Lincolnshire Environmental Records Centre, an independent service of Lincolnshire Biodiversity Partnership. There are strict guidelines governing the storage, access to, and use of this information. You may request access to information on your land at any time.

The Lincolnshire Biodiversity Partnership Steering Group next meets on *date*. You are invited to make observations on factors relating directly to the application of the site selection criteria, which will be taken into consideration before the meeting. If your observations provide relevant information that was not previously available to the LWS Panel, then the site will be referred back to the LWS Panel for further discussion.

On behalf of the Partnership, I would like to encourage you to continue to manage your site for the benefit and enhancement of wildlife. A fact sheet accompanies this letter outlining possible sources of advice and funding to aid you in this respect.

Please be aware that the status of your site will be kept under review and may change in the future in the light of new information. You will be contacted again within the next 5-10 years to request access to resurvey your site.

## RECOMMENDATION NOT TO SELECT

Dear *Landowner's name*

### Lincolnshire Local Wildlife Sites Review

#### Site Name:

You may remember that *surveyor's name* of *organisation name* visited your site in *month year*, on behalf of *local authority*. Enclosed are species lists and site information relating to that survey.

One of the reasons for the visit was to identify potential Local Wildlife Sites (LWSs) These are areas which stand out as being of particular value for their wildlife, and this importance is recognised within the planning system. Guidelines for the selection of LWSs were developed by organisations represented on the Lincolnshire Biodiversity Partnership (LBP). These guidelines can be viewed on the website [www.lincsbiodiversity.org.uk](http://www.lincsbiodiversity.org.uk).

The LBP Local Wildlife Sites Panel has assessed the information on *site name* against the guidelines and has found that the area does not meet the new selection criteria. This does not mean that the area has no value for wildlife: it simply means that other *habitat type* in the county have been deemed to have more substantive nature conservation value.

[At present *site name* is listed on the Local Authority Local Plan as a *Site of Nature Conservation Importance (SNCI)*. The LWS designation supersedes the *SNCI* designation for those sites which meet the selection criteria.]

**The Local Wildlife Sites Panel will be recommending to the Lincolnshire Biodiversity Partnership that the area should not be selected as a Local Wildlife Site [and should cease to be known as a *SNCI*].**

[If agreed by the Lincolnshire Biodiversity Partnership Steering Group, this recommendation will be passed to the Local Authority to enable it to update its records. The site will not be included in the list of such sites in the Local Development Framework.]

Information on the site is held by the Lincolnshire Environmental Records Centre, an independent service of Lincolnshire Biodiversity Partnership. There are strict guidelines governing the storage, access to, and use of this information. You may request access to information on your land at any time.

The Lincolnshire Biodiversity Partnership Steering Group next meets on *date*. You are invited to make observations on factors relating directly to the application of the site selection criteria, which will be taken into consideration at the meeting.

On behalf of the Partnership, I would like to encourage you to continue to manage your site for the benefit and enhancement of wildlife. A fact sheet accompanies this letter outlining possible sources of advice and funding to aid you in this respect.

Please be aware that the status of your site will be kept under review and may change in the future in the light of new information.

## ANNEX 7 - SPECIES STATUS

This annex contains details of publications. The first section lists UK species and habitats that have priority or protected status; the second section lists species considered to be currently threatened in the UK. It is important to bear in mind that changes in the status of some species, the documentation concerning such changes, and relevant legal provisions are all subject to amendment.

### PRIORITY & PROTECTED SPECIES & HABITATS

#### **Internationally Protected Species**

The Conservation (Natural Habitats &c.) Regulations 1994 (as amended) Schedules 2 & 4

#### **Nationally Protected Species**

Wildlife and Countryside Act 1981 (as amended) Schedules 1, 5 & 8

#### **UK Priority Species and Habitats**

UK Biodiversity Action Plan 1994 (revised 2007)

Countryside and Rights of Way Act 2000 Section 74

Natural Environment and Rural Communities Act 2006 - Section 41: List of habitats and species of principal importance in England

### UK THREATENED SPECIES

#### **Lower plants:**

Woods, RG, & Coppins, BJ, 2003, *A Conservation Evaluation of British Lichens*. British Lichen Society

Stewart, NF & Church, JM, 1992, *Red Data Books of Britain & Ireland: Stoneworts*. JNCC.  
[Recently assessed by N Stewart, using the current IUCN criteria, a publication will appear shortly - JNCC]

Church, JM, Hodgetts, NG, Preston, CD. and Stewart, NF (Eds.), 2001, *British Red Data Books: Mosses and Liverworts*. JNCC

#### **Higher plants:**

Cheffings, CM & Farrell, L (Eds.), 2005, *The Vascular Plant Red Data List for Great Britain*. JNCC

#### **Invertebrates:**

Shirt, DB (Ed), 1987, *British Red Data Books: 2 Insects*. NCC

Bratton, JH, 1990, *A Review of the Scarcer Ephemeroptera and Plecoptera of Great Britain*. JNCC

Kirby, P, 1992, *A Review of the Scarce and Threatened Hemiptera of Great Britain*. JNCC

Kirby, P, 1991 (reprinted 1992 with minor corrections), *A Review of the Scarcer Neuroptera of Great Britain*. JNCC

Wallace, ID, 1991, *A Review of the Trichoptera of Great Britain*. JNCC

Parsons, MS, 1995, *A Review of the Scarce and Threatened Ethmiine, Stathmopodine and Gelechiid Moths of Great Britain*. JNCC

Parsons, MS, 1993, *The Scarce and Threatened Pyralid Moths of Great Britain*. JNCC

Falk, S, 1991, *A Review of the Scarce and Threatened Flies of Great Britain, Part 1*. JNCC

Falk, S, 1991, *A Review of the Scarce and Threatened Bees, Wasps and Ants of Great Britain*. JNCC

### **Vertebrates**

Gregory, RD, Wilkinson, NI, Noble, DG, Robinson, JA, Brown, AF, Hughes, J, Proctor, DA, Gibbons, DW and Galbraith, CA, 2002, *The Population Status of Birds in the United Kingdom, Channel Islands and the Isle of Man: an Analysis of Conservation Concern 2002-2007*. *British Birds* **95**: 410-450

## **GLOSSARY**

### **Agri-environment schemes**

Grant schemes managed by Defra including Environmental Stewardship (Entry Level and Higher Level Schemes (ELS & HLS)).

### **Ancient Woodland Inventory**

Inventory of woodland sites over 2ha in size that have had continuous woodland cover since at least 1600 AD. The accuracy of these inventories cannot be guaranteed, because they were compiled from inspection of old maps, with little field work involved.

### **Biodiversity**

The variety of life on earth.

### **Biodiversity Action Plan (BAP)**

National, local and sector-specific plans established under the UK Biodiversity Action Plan, with the intention of securing the conservation and sustainable use of biodiversity.

### **Community Conservation Index (CCI)**

This is a method for assessing the conservation value of aquatic invertebrates present at a site by:

- determining the relative rarity of the species present (e.g. Red Data Book)
- determining the community richness (number of species)

### **County Recorders**

Individuals who collate information about specific groups, orders or families of species, either via the Lincolnshire Naturalists' Union or via national schemes and societies.

### **County Wildlife Site (CWS)**

Site referred to in a Local Plan, selected as being of importance for nature conservation on the basis of local knowledge before development of the guidelines in this document (see also CNA, SINC, SLNCI, SNCI and WS). The term CWS has been used by North Kesteven District Council.

### **Critical Natural Asset (CNA)**

Site referred to in a Local Plan, selected as being of importance for nature conservation on the basis of local knowledge before development of the guidelines in this document (see also CWS, SINC, SLNCI, SNCI and WS). The term CNA has been used by City of Lincoln Council.

### **Lincolnshire Biodiversity Action Plan (Lincolnshire BAP)**

The local BAP covering the historic county of Lincolnshire, i.e. the areas administered by Lincolnshire County Council, North Lincolnshire Council and North East Lincolnshire Council. The first edition was published in 2000 and the second, revised edition was published in 2006. This is available on the web site: [www.lincsbap.org](http://www.lincsbap.org)

### **Lincolnshire Biodiversity Partnership (LBP)**

The Lincolnshire Biodiversity Partnership brings together local authorities, statutory agencies, voluntary and not-for-profit organisations with a responsibility for and interest in biodiversity in the historic county of Lincolnshire. It coordinates action, information and protection, and provides services for partner organisations. The Partnership is independent of any of its constituent organisations. Partners are listed on the website [www.lincsbiodiversity.org.uk](http://www.lincsbiodiversity.org.uk).

### **Lincolnshire Biodiversity Partnership Steering Group**

Representatives of Lincolnshire Biodiversity Partnership organisations who meet to determine policy and action.

### **Lincolnshire Environmental Records Centre (LERC)**

This centre collects, collates, manages and disseminates information relating to the wildlife, sites and habitats of Lincolnshire, under the auspices of the Lincolnshire Biodiversity Partnership.

### **Lincolnshire Wildlife Trust (LWT)**

The Lincolnshire nature conservation charity, previously known as Lincolnshire Trust for Nature Conservation and Lincolnshire & South Humberside Trust for Nature Conservation.

### **Local Development Framework (LDF)**

Local Development Frameworks deliver the spatial planning strategy for the local planning authority's area. They are replacing statutory Local Plans.

### **Local Nature Reserve (LNR)**

A statutory designation made by a Local Authority, in consultation with Natural England, to protect sites of special wildlife interest and enhance public enjoyment of wildlife. The Local Authority either has ownership or a legal interest in the land.

### **Local Wildlife Site (LWS)**

Local Wildlife Sites (LWSs), along with biological Sites of Special Scientific Interest (SSSIs), some of which are of international importance, are the most important places for wildlife in the county. They have substantive nature conservation value and their continued presence makes a significant contribution to maintenance of biodiversity. They may also have an important role in contributing to public enjoyment and understanding of nature.

### **Local Wildlife Sites Panel**

The panel set up under the auspices of the Lincolnshire Biodiversity Partnership, with a membership drawn from statutory and voluntary nature conservation organisations and local authorities. Panel members are appointed by the LBP Steering Group: they all have ecological expertise.

### **National Biodiversity Network (NBN)**

This is a way of sharing wildlife information in the UK. The NBN is building tools to make this information accessible in a digitised and exchangeable form.

### **National Indicator 197 (NI197)**

A National Indicator for the performance of Local Authorities. Improved Local Biodiversity – the number of Local sites where positive conservation management has been or is being implemented.

### **Planning Policy Statement (PPS)**

A statement published by the Office of the Deputy Prime Minister (ODPM), replacing Planning Policy Guidance.

### **Site of Importance for Nature Conservation (SINC)**

Site referred to in a Local Plan, selected as being of importance for nature conservation on the basis of local knowledge before development of the guidelines in this document (see also CNA, CWS, SLNCI, SNCI and WS). The term SINC has been used by North Lincolnshire Council.

**Site of Local Nature Conservation Importance (SLNCI)**

Site referred to in a Local Plan, selected as being of importance for nature conservation on the basis of local knowledge before development of the guidelines in this document (see also CNA, CWS, SINC, SNCI and WS). The term SLNCI has been used by South Holland District Council.

**Site of Nature Conservation Importance (SNCI)**

Site referred to in a Local Plan, selected as being of importance for nature conservation on the basis of local knowledge before development of the guidelines in this document (see also CNA, CWS, SINC, SLNCI and WS). The term SNCI has been used by the following local authorities:

- East Lindsey District Council
- Lincolnshire County Council
- North East Lincolnshire Council
- South Kesteven District Council
- West Lindsey District Council

**Site of Special Scientific Interest (SSSI)**

An area of land which in the opinion of Natural England is of special interest at a national level due to its flora, fauna or geological or physiographical features.

**Wildlife Site (WS)**

Site referred to in a Local Plan, selected as being of importance for nature conservation on the basis of local knowledge before development of the guidelines in this document (see also CNA, CWS, SINC, SLNCI and SNCI). The term WS has been used by Boston Borough Council.

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