GUIDELINES FOR PRELIMINARY ECOLOGICAL APPRAISAL

Section 1 – Introduction

Background

Preliminary ecological surveys have a range of purposes; one key use is in the site development process to gather data on existing conditions, often with the intention of conducting a preliminary assessment of likely impacts of development schemes or establishing the baseline for future monitoring. As a precursor to a proposed project, some evaluation is usually made within these appraisals of the ecological features present, as well as scoping for notable species or habitats, identification of potential constraints to proposed development schemes and recommendations for mitigation. Developers should be advised and encouraged to enter into discussions with planning authorities as early in the development process as possible.

A Preliminary Ecological Appraisal indicating, for example, the likely significance of ecological impacts on a proposed development site will be an important contribution to these early stages. It will help the developer and the planning authority to agree the appropriate scope of any subsequent impact assessments, or that ecological impacts will not be a significant issue in the determination of the application when it is submitted. Preliminary Ecological Appraisals would also be an important preliminary step, whether taken by the developer or the planning authority, to inform decisions as to whether a particular site should be included as an allocation in a development plan.

The information obtained from such an appraisal is appropriate for use in the process of selecting preferred options and in the strategic environmental assessment of the plan.

A Preliminary Ecological Appraisal, together with any ecological evaluation undertaken, does not replace the more formal Ecological Impact Assessment (EcIA) (IEEM 2006 and IEEM 2010). A Preliminary Ecological Appraisal may be prepared before undertaking a full EcIA or may be stand alone documents where no EcIA is required. No comprehensive up-to-date guidance exists for undertaking this type of baseline ecological assessment.

Brief guidance is set out in Chapter 2 (Extended Phase 1 Habitat Map with Target Notes) of Guidelines for Baseline Ecological Assessment (Institute of Environmental Assessment 1995). This is the key reference, and appears to be widely cited by consultant ecologists as the basis for such studies. Guidelines for Baseline Ecological Assessment was published in 1995 and relevant information within it is concise and limited. Furthermore, since its publication, many changes have taken place with regard to planning and legislation requirements and standard ecological survey methodologies.

As a result of the lack of up-to-date guidance, there is a variety of ecological assessment reports produced by ecological consultants as part of the initial phase of the development process that use differing names and where the standard of survey and assessment may be variable. For example, the lack of a standard approach to these preliminary ecological assessments may lead to uncertainty on the part of developers and regulators (planning authorities and government agencies) as to the level of ecological survey required in a particular situation and whether sufficient survey effort has been made.

Terminology

Many terms are used to describe preliminary survey and reporting: Baseline surveys, Extended Phase 1 habitat survey; Constraints Survey; Ecological Site Assessment; Ecological Site Appraisal; Ecological Scoping Survey; Walkover Survey. Some of these terms are fairly old and are now rarely used, although they are still encountered from time to time, e.g. walkover survey. Furthermore, constraints or scoping surveys (although they may vary in content) are unlikely to include any element of valuing of features, and walkover, scoping and constraints survey are considered to be too limited or the terminology too loose. Consequently some standardisation is required to reflect the minimum works at this stage of the process, as set out below.

‘Ecological (Site) Assessment’ is open to confusion with the more detailed Ecological Impact Assessment and does not help to clarify what is being undertaken. Nevertheless, some form of robust ecological approach is required to inform planning decisions. It is therefore considered that either Extended Phase 1 habitat survey or Ecological Appraisal is the most appropriate description of this type of assessment, although the former implies no evaluation, and is thus insufficient for purposes such as the Code for Sustainable Homes and BREEAM (Building Research Establishment Environmental Assessment Method) assessments. ‘Ecological Appraisal’ is considered the term most suited to describing a preliminary or baseline level of survey and assessment. The word ‘site’ has been omitted as it is common practice to include an element of survey beyond a site boundary, even if this is only a visual assessment from within the proposed site.

Objectives

This document provides best practice guidance for those undertaking preliminary ecological appraisals, setting out the minimum standards required. It provides
recommended terminology for consistency across baseline appraisals to aid developers and planning authorities.

Applications

Examples of situations where these appraisals would be undertaken are:

- Proposed developments:
  - where it is considered that EcIA is not required;
  - to establish baseline conditions and determine the importance of ecological features present (or those that could be present) within the specified area, as far as is possible;
  - to establish any requirements for detailed/further surveys;
  - to identify key constraints to the project and make recommendations for design options to avoid significant effects on important ecological features/resources at an early stage;
  - to identify the mitigation measures as far as possible, including those that will be required, and those that may be required (based on results of further surveys or final scheme design); and
  - to identify enhancement opportunities.
- Site management plans:
  - to identify and evaluate the features of interest.
- Code for Sustainable Homes/BREEAM (Land use and ecology credits):
  - gathering ecological baseline data.

The results of baseline appraisals are potentially of great importance as they often form the basis for further ecological surveys and EcIAs/Environmental Impact Assessments (EIA) and for the setting of site management objectives. Consequently, without a consistent approach, important ecological features may be ‘scoped out’ or inadequately surveyed at this stage and are then overlooked in subsequent ecological assessments.

It is important to note that most, if not all, planning applications will require an assessment of all ecological effects. Therefore, in most cases, a Preliminary Ecological Appraisal, as described here, will not provide all of the information required by the regulatory bodies to determine a planning application. However, in many cases it can be a helpful first step in informing a developer of the key ecological constraints, design options, requirements for further surveys and mitigation measures. It can also be useful in providing a basis for consultation with the determining authority and other consultees on these same issues.

The level of detail required for any ecological survey and assessment will depend on the nature of the development, statutory requirements and the needs of the developer and the regulator.

Obligations and Responsibilities

Prior to the commencement of any project, written agreement of respective obligations and responsibilities between the parties involved is necessary to establish the contractual relationship. This needs to be on a firm foundation in view of possible negligence claims and liabilities under statute (e.g. Civil Liability Contribution Act 1978, Limitation Act 1980 and Latent Damage Act 1986) and any disagreement arising during the contract period. A contract document provides both consultant and client with protection under contract law. The work required to be undertaken should be set out clearly in a contract. Advice on this can be found in the CIEEM Professional Guidance Series No. 7 Model Service Agreements and Professional Guidance Series No. 11 Contract Advice Notes Part I. Those undertaking survey work should ensure that they meet the minimum species survey standards as set out in the CIEEM Competencies for Species Survey guidance documents (2011).

Section 2 – Outline of the Process

Introduction

Ecological surveys should be undertaken by qualified professionals, experienced in ecological survey, with an understanding of nature conservation legislation and planning and recognised by a relevant professional body such as CIEEM. Where animal species are to be surveyed the ecologist should also be able to demonstrate that they meet the minimum knowledge, skills and practical experience requirements as set out in the IEEM Technical Guidance Series Competencies for Species Survey.

Method

This following advice in relation to a report’s structure and contents is in accordance with the CIEEM Professional Guidance Series No. 9 Guidance for Ecological Report Writing and Professional Guidance Series No. 10 Guidance on Metadata Standards: Reporting, Sharing and Archiving Ecological Data.

The method employed should be clearly stated and should allow for the following:

1. A desk study to identify notable (defined below) or protected sites habitats or species potentially affected by the proposal under consideration.
2. Survey based on the Phase 1 habitat survey (JNCC 2010) or equivalent, i.e. within the survey area every parcel of land is classified, recorded and mapped in accordance with a list of ninety specified habitat types using standard colour
codes\textsuperscript{2} to allow rapid visual assessment of the extent and distribution of different habitat types. Whilst a Phase 1 habitat survey is appropriate in the majority of cases, there are situations where it may not be particularly helpful, such as where the study area comprises existing residential properties and gardens – in these circumstances an alternative way of recording and presenting the basic habitat information should be used.

3. An extension of this basic survey methodology to provide further details in relation to notable or protected habitats present within the survey area, or in relation to habitats present that have the potential to support notable or protected species.

4. Some description of habitat condition e.g. woodlands with a good layered structure or with standing dead timber; grasslands grazed, rank or ‘tussocky’; ponds shaded or not; watercourses fast or slow flowing, poached banks; etc. These observations add value and indicate the type of management that may be needed in future.

5. Clarity as to the range of species and habitats under consideration. It may be considered relevant to include further habitats and species, besides those that are rare or legally protected, e.g. Biodiversity Action Plan (BAP) habitats and species, and Birds of Conservation Concern (RSPB, 2009).

6. Target notes to provide supplementary information on features too small to map, or supplementary details, for example relating to species composition, structure and management. Target notes may also be used to highlight important reference points and to help the reader navigate around the area.

7. Identification and mapping of marine and/or coastal habitats is a highly specialised task. A separate survey of these is recommended following The Marine Habitat Classification for Britain and Ireland (JNCC, 2005). Where the ecologist(s) possess adequate expertise, a preliminary attempt may be made to identify accessible areas of littoral/inter-tidal zone using this classification system.

8. Quality control: there should be a clear audit trail detailing:
   - the surveyor(s);
   - surveyors’ licence number(s);
   - the report author(s);
   - key dates e.g. any site visits;
   - the quality controller(s); and
   - who signs it off.

9. Clear definitions of the terminology used; for example:
   - ‘Zone of influence’, ‘survey area’ and ‘desk study area’ should all be defined in terms of the site and its surrounds.
   - The criteria for valuing habitats and species should be defined (IEEM, 2006).

10. Relevant biodiversity data obtained as part of the site survey should be submitted to Local Environmental Record Centres (subject to approval by landowners/clients where relevant).

Scope

When identifying the extent of the area under consideration within the desk study, the following should be considered:

- Rather than set prescribed distances or other parameters, the scope and area that should be considered for study should be based on the professional judgment of the ecologist leading the Appraisal. It will depend on many factors (see further below), including: the characteristics of the site subject to appraisal, its surroundings and the nature of the changes proposed. It is therefore essential that both the basis for the decision as to the scope and area of the appraisal is clearly set out and fully justified, and, any assumptions or limitations are described, so that decision makers and consultees can understand the basis of the appraisal and consider whether it is adequate for the stated purpose.

- Records for notable and/or protected species within 1 - 2 km are usually considered to be of greatest relevance within most studies. In other cases, such as for small sites with limited ecological interest and localised effects, a smaller search area may be appropriate (such as within 500 m). Ecological judgement should dictate where various ecological/habitat factors indicate that this distance should be increased: such as habitat connections to site, e.g. where otters have been recorded via fluvial networks, or potential for visiting flocks of notable birds where suitable habitats exist within the survey site, or important flight routes between the site and bat roosts (see example involving greater horseshoe bats Rhinolophus ferrumequinum on page 25 of Bat Mitigation Guidelines - Mitchell-Jones 2004).

- Attention should be focussed on connections between the survey area and nearby habitats, especially aquatic habitats and wetlands both upstream and downstream via fluvial networks or other hydrological networks. Potential effects within the water table should also be considered

\textsuperscript{2} See JNCC website for amendments for GIS phase 1 palette and other mapping information.
e.g. groundwater dependent raised bogs and other groundwater dependent wetlands. Connections may also exist between a site and mineral workings which could depress the water table for some distance around them e.g. wet sand and gravel workings.

- Account should be taken of valuation of ecosystem services following documents published by Defra (Defra, 2007a and Defra, 2007b) and on the Millennium Ecosystem Assessment website (Millennium Ecosystem Assessment 2005). This refers to the conditions and processes through which natural ecosystems sustain and fulfil human life. These documents set out a systematic approach to the assessment of impacts on the natural environment to ensure that the true value of ecosystems and the services provided are taken into account in policy decision-making.

Description of the geographical extent and zone of influence considerations may include the following:

- **Purpose of study** i.e. to inform development scheme, record the ecological baseline and/or identify key features.

- **Study area** should be appropriate to the likely impact of the development and encompass the proposed development site (or ownership boundary) and a buffer zone. (This decision will be based on ecological judgement; 50 m may be considered sufficient in order to avoid the possibility of adverse impacts to certain species, e.g. badger setts, although greater distances than this may provide useful context for the site).

- The **scope** of this type of survey may vary considerably and additional elements may form part of the study depending on the requirements for the area under assessment or to provide contextual information to allow the importance of a resource to be determined.

- The need to assess ecological ‘value’ of features present in accordance with CIEEM 2006 although this will usually be provisional upon data to be obtained from further survey effort. **It should be made very clear which features can and cannot be valued - some features cannot be valued without further survey.**

- As far as possible any **future requirements**, such as an EcIA or assessment of ‘Land and Ecology’ credits that may be awarded as part of BREEAM or Code for Sustainable Homes assessments.

- **Identification of any invasive plant or animal species** (such as Japanese knotweed *Fallopia japonica* or other species listed on Schedule 9 of the Wildlife and Countryside Act) that could have implications for works on the site.

**Limitations**

It is important to set out clearly what the assumptions and limitations of the survey are, for example:

- incomplete survey of all/some species and habitats present;

- The time of year/behaviour may mean that certain species and habitats are not properly identified (however, the scoping element should identify the potential of species to be present). These surveys are often undertaken in the winter as this provides good ‘lead-in’ time for planning Phase 2 surveys in the spring/summer, but obviously there is potential to overlook botanical and other species interests at this time of year;

- weather conditions at time of survey; and

- data that may not have been obtained in the timetable of the study; and

- where there have been changes, for example to site boundaries, it should be clear that the recommendations relate to plans/proposals as provided by the client at the time of the survey; any subsequent changes may alter those recommendations and the proposed mitigation/ enhancement measures.

**Desk Study**

The following information sources should be consulted. Obtaining data through desk study will help to determine not only the geographical scope of the survey but also the features to be searched for. Data obtained from these sources should be fully referenced and used in compliance with the terms and conditions relating to its commercial use.

- National – MAGIC and NBN Gateway websites;

- Local – Environmental Records Centres (ERCs), County Councils, Unitary Authorities etc.; and

- Local wildlife groups, e.g. mammal, herpetofauna, bat or botanical groups.

**Results**

**Descriptive Text**

- Text descriptions of notable species and habitats that occur or may potentially occur within the survey area may vary considerably in length and level of detail depending upon their intended use.
It may be necessary to mark the report as confidential where locational details are provided of sensitive species (where the locations need to be kept confidential due to the risk of human interference) including the location of badger setts.

Photographs should be used in a report as they increase understanding of the accompanying text.

Habitat Mapping and Target Notes

A clear map should be provided based on the Handbook for Phase 1 Habitat Survey (JNCC 2010).

The following should be identified using target notes:

- features of particular ecological interest e.g. locations of protected species/habitats;
- features too small to map;
- features categorised within a given Phase 1 habitat type, but atypical or interesting for any reason e.g. a small spring/flush within a large area of fen or blanket bog;
- transitional habitats not falling clearly into a specific habitat, or unclear boundaries between habitats;
- stands of invasive plant species; and
- reference points to help the reader navigate descriptions of large and/or complex areas.

Evaluation of Ecological Features and Identification of Potential Impacts

- An indication of the ecological value of features present, where required, should be undertaken based on the Guidelines for Ecological Impact Assessment (CIEEM 2006). This evaluation should be undertaken by the ecologist(s).

- An assessment may be required at this stage, using all available data and the professional judgement of the ecologist concerned, to identify any ecological features that may be subject to impacts (adverse or positive). In particular, this should be considered in the light of the legislative or planning context (where relevant) – see below. Such feedback to the developer is valuable in that it can indicate the need for design changes to avoid adverse effects.

- Further survey effort may be required to assess value for particular features.

- Features that have been identified as being present, or potentially present, may be scoped out at this point if it is considered that no impacts are likely, but it should be remembered that ‘absence of evidence is not evidence of absence’. It may be appropriate to state that this appraisal relates specifically to the original brief and proposal description. With phased proposals where subsequent design changes are likely, it should be noted that a re-appraisal will be needed should proposal details change.

- This section may also include a preliminary consideration of the ecological features as ‘ecosystem services’. ‘Valuation’ is a widely used tool in determining the impact of human activities on an environmental system, by assigning an economic value to ‘ecological services’, and may form part of impact assessment subsequent to the ecology appraisal.

Recommendations for Further Surveys, General Mitigation and Possible Enhancements

- Clear recommendations should be made here for any further surveys of specific habitats, species groups or species. It should be stated that in the case of certain protected species it may well be necessary to obtain a licence from the relevant Statutory Nature Conservation Organisation (SNCO).

- An initial outline of measures that are likely to be required to avoid or to mitigate for potentially adverse impacts identified (where further surveys are not required) can be made at this stage.

- There may be a requirement by the planning authority to provide compensation for any negative impacts or, in any event, to require a net biodiversity gain in accordance with Government policies. These can only be indicative at the preliminary ecological appraisal stage as they are reliant on more detailed assessment. However, identification of these is desirable in order to begin to incorporate these into the scheme design at as early a stage as is possible. It is imperative that a professional ecologist (recognised by the relevant professional body) is part of the design team.

- A survey calendar can be included here to indicate optimal times of year when a particular species/species group or habitat may be surveyed.

- Developers should use this initial report to enter into discussions with the planning authorities.

Legislative and Planning Context

Protected Habitats and Species

- It should be clearly stated where there is potential for contravention of national or international nature conservation and related legislation or policy. Further survey work may be required to establish this fully.
Notable Habitats and Species

- Material considerations in planning and similar types of decisions can be influenced by factors such as local designations, UK or County BAP Priority habitats or species, and species listed in the UK Red Data Book or RSPB Birds of Conservation Concern. Collectively these may also constitute ‘notable’ species. There is likely to be some degree of overlap between these and legally protected species, although a large number of rare habitats or species do not receive direct legal protection.

- BAP designations relate to species or habitats that are not necessarily of high ecological value but which are nonetheless regarded as being of conservation concern at the national or local level, and for which Biodiversity Action Plans have been prepared.

- The professional judgement of the ecologist will be required to identify the key features in relation to the survey area and those that may be adversely affected by the proposals.

Planning Context

The BAP priority habitats and species which governments particularly expect to be taken into account in planning and related decisions include:

- England
  - NERC Act 2006, Section 41
  - Circular 06/05 Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System (2005)
  - Biodiversity 2020 (2011)
  - The natural choice: securing the value of nature (2011) (Natural Environment White Paper)
  - NB: Planning Policy Statement 9 (PPS9) is now obsolete

- Northern Ireland
  - Northern Ireland Biodiversity Strategy 2002
  - Planning Policy Statement (PPS) 2 – Planning and Nature Conservation (under review)

- Republic of Ireland
  - Planning Act 2009
  - Wildlife Act 1976 (amended 2000), Habitats Regulations (currently being amended)
  - National Biodiversity Plan
  - Actions for Biodiversity 2011-2016 - Ireland’s 2nd National Biodiversity Plan
  - Sustainable Rural Housing Guidelines
  - NPWS Appropriate Assessment Guidelines

- Scotland
  - The Scottish Biodiversity List under Section 2(4) of the Nature Conservation (Scotland) Act 2004
  - Scottish Planning Policy February 2010 and - Planning Advice Note (PAN) 60 - Planning for Natural Heritage 2000.

- Wales
  - Wales Biodiversity Framework (2010)
  - Section 42 - NERC Act 2006
  - Planning Policy Wales - June 2010, Edition 2, Chapter 5
  - Technical Advice Note (TAN) 5 - Nature Conservation and Planning (2009)

Wherever relevant, enhancement suggestions should be linked to goals and targets contained within local planning policy documents (those setting out biodiversity objectives and policies to conserve and enhance biodiversity at the regional and sub-regional levels), and also to targets for habitat improvement/creation in local BAP targets. These include targets for the restoration of and re-creation of priority habitats and the recovery of priority species populations; and identify any areas or sites for the restoration or creation of new priority habitats that would contribute to regional targets, and support this restoration or creation through appropriate policies.

Referencing

The reference list for Preliminary Ecological Appraisal reports should include the standard references for each species or habitat as specified in IEEM Sources of Survey Methods (http://www.ieem.net/sources-of-survey-methods-sosm-).

All UK and legislation for countries within the UK can be viewed at: http://www.hmso.gov.uk/legis.htm, and for Ireland in the Irish Statute Book at: http://www.irishstatutebook.ie.

References

Actions for Biodiversity 2011 – 2016, Ireland’s 2nd National Biodiversity Plan

Biodiversity 2020: A strategy for England’s wildlife and ecosystem services


Department of the Environment, Heritage and Local Government (Revised 2012) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities

Government of Ireland (April 2005) Sustainable Rural Housing Guidelines for Planning Authorities

Institute of Ecology and Environmental Management, Professional Guidance Series (CIEEM http://www.cieem.net/) [Members only]


Irish Nature Conservation Law, National Parks & Wildlife Service

Joint Nature Conservation Committee Phase 1 Habitat Classification http://jncc.defra.gov.uk/page-4258


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