



Chartered  
Institute of  
Ecology and  
Environmental  
Management

# GUIDELINES FOR ECOLOGICAL REPORT WRITING

Second Edition

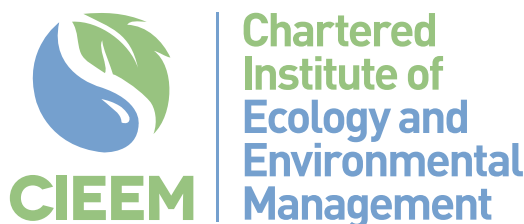
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**This document should be referenced as:**

CIEEM (2017) *Guidelines on Ecological Report Writing*. Chartered Institute of Ecology and Environmental Management, Winchester.

# 1. INTRODUCTION

- 1.1. The ability to provide objective, relevant, accurate, fair and impartial information and advice is enshrined in the Institute's *Code of Professional Conduct* (the Code) and is an essential requirement if members are to demonstrate their competence and professionalism. Good report writing is therefore an essential skill for professional ecologists and environmental managers.
- 1.2. A well-written report is succinct, serves the purpose for which it is intended, is tailored to the requirements of the reader and answers the brief agreed with the client. It should inspire the reader's confidence in the content, it should avoid any misunderstanding, and minimise the risk of unintended financial or legal consequences. The intention with these guidelines is to provide a framework for the preparation of a good report.
- 1.3. This guidance is based on established good practice and aims to ensure:
  - a. Ease of access to readily available information;
  - b. Content and structure serve the intended purpose (i.e. contains all necessary information in a logical format);
  - c. Transparency and clarity throughout and justification for robust recommendations and conclusions.

# 2. DIFFERENT TYPES OF REPORT FOR DIFFERENT PURPOSES

- 2.1. From the outset, it is important to identify the purpose of the report and to then decide on the most appropriate format that will best serve that purpose.
- 2.2. The type of report required will vary depending on the client and their specific needs, and on a project by project basis. For example, the report may cover a single survey for one particular species or be a full ecological assessment involving multiple, detailed species and habitat surveys, accompanied by an assessment of likely impacts, with details of necessary mitigation measures.
- 2.3. Table 1 provides a list of common types of report along with a description of the purpose each is intended to serve. To accompany the table, two templates are provided in Appendix A and B of these guidelines that set out the structure and format that is considered to be good practice when preparing Ecological Impact Assessment (EclA) Reports and Preliminary Ecological Appraisal Reports (PEARs) (for the latter see CIEEM's Technical Guidance Series (TGS) *Guidelines for Preliminary Ecological Appraisal* on the Institute's website).
- 2.4. Some clients, such as national and local highway agencies/authorities and Network Rail may already have a preferred structure and format for reports to be submitted to them (e.g. as set out respectively in the *Design Manual for Roads and Bridges* (DMRB) and the *Guide to Rail Investment Process* (GRIP)). Otherwise, under normal circumstances where a report is intended to inform some stage of the planning and development process, ecological reports should be based on the templates provided in Appendix A and B of these guidelines.
- 2.5. These guidelines provide general advice applicable to the majority of reports. However, for detailed guidance on undertaking and reporting on Ecological Impact Assessments (EclAs), see CIEEM's *Guidelines for Ecological Impact Assessment* on the Institute's website.

## ***The Importance of Proportionality***

- 2.6. It is important to remember that the structure and content of a report should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, report authors should only provide information that is relevant, necessary and material to the purpose identified, while at the same time ensuring that adequate details are provided for the intended reader and/or audience e.g. in the case of an EclA Report, a local planning authority (LPA). Likewise, all decision-makers should apply a proportionate approach to the information that they request.

**Table 1. Examples of different types of ecological report and their purpose**

Report Type	Description/Purpose
<b>Survey and Research Reports</b>	
Ecological Survey (e.g. Habitat Survey)	Provides the results of an ecological survey, such as a habitat or a badger survey. The report will include a description of the methods used as well as the detailed results of the survey, and interpretation/assessment of the results. These reports are normally used to inform one of the reports listed under 'Assessment'. They may be submitted as part of a planning application e.g. as an appendix to an EclA report or the ecological chapter of an Environmental Statement (see below). Ecological Survey reports should follow the structure set out in Section 5 below.
Research Report	Provides the results of a piece of research, such as may be commissioned by a Statutory Nature Conservation Organisation (SNCO). A specific structure may be provided in such cases by the client. Alternatively, preparation of such reports may follow the guidance in Section 5 below.
Ecological Monitoring Report (As distinct from a monitoring strategy – see below)	Provides the results of post-construction monitoring for a development project as a 'snap shot' at a particular period in time, as required by a planning condition/obligation or by a protected species licence. The report will include a description of the methods used as well as the detailed results of the survey, and interpretation/ assessment of the results. Preparation of the monitoring report should, where appropriate, follow the guidance on report structure set out in Section 5 below. The appropriate content of such a report is set out in BS42020 clause 11.2.3.4.  A monitoring 'report' is distinct from an ecological monitoring 'strategy'. The former provides only the methods and results of monitoring, along with their interpretation (often collected at prescribed periods after the completion of works). Whereas, the full strategy provides an agreed set of aims and objectives for monitoring and comprehensive details about how monitoring will be undertaken and reviewed (see 'Ecological Monitoring Strategy' below under 'Other Common Types of Ecological Report').
<b>Assessment Reports</b>	
Preliminary Ecological Appraisal Report (PEAR)	Provides the results of initial ecological surveys associated with a proposed development. The report is used to identify further ecological surveys necessary to inform an EclA (see below), to identify ecological constraints to a project and make recommendations for design changes, and to highlight opportunities for ecological enhancement. It can be used as a scoping report (for non-EIA projects), but should not be submitted as part of a planning application unless it can be determined that the project would have no significant ecological effects, no mitigation is required and no further surveys are necessary; with the exception of such cases it should be superseded by an EclA report (see below). The PEAR should follow the structure set out in Appendix A of these guidelines.

Ecological Impact Assessment (EclA) Report - non-EIA	Assesses the impacts of a non-EIA development proposal on ecological features, clearly identifying any ‘significant effects’ as well as impacts on any designated sites or protected species, and detailing both the mitigation measures required, and how these will be secured. An EclA Report will be submitted as part of a planning application where it has been determined that a formal EIA is not required. It should follow the structure set out in Appendix B of these guidelines. For development projects affecting only a single species/group (such as where a barn conversion requires an assessment in relation to bats) the report accompanying the application will comprise an EclA Report. As such, it should therefore have the same content as that set-out in Appendix B, although the structure can be modified to delete unnecessary sections, or to combine sections where appropriate i.e. it should be proportionate.
Ecology or Biodiversity Chapter(s) of an Environmental Statement (EclA for EIA projects)	Where a formal EIA is required the Ecological Impact Assessment will be presented as a chapter of an Environmental Statement (ES). This has the same purpose and content as an EclA Report (see Appendix B of these guidelines) although the structure is often dictated by an EIA co-ordinator, to ensure consistency across the ES.
Ecological Report (Using a Pro-forma or bespoke template provided by the relevant decision-maker)	For ‘low risk’ small-scale developments, some LPAs may operate a system where ecological information is accepted in the form of a short pro-forma report on a template provided by the council. Such reports have a bespoke structure and format and should only be used in conjunction with a system already in place and operated by the LPA (e.g. Dorset County Council under their Biodiversity Protocol). Use of such a pro-forma does not reduce the need to work in accordance with good practice and in compliance with the Institute’s <i>Code of Professional Conduct</i> .
Statement to Inform the Habitat Regulations Assessment process	Provides the information needed to enable a Habitat Regulations Assessment to be undertaken by a competent authority of the implications of a project in relation to a European Site in view of the site’s conservation objectives. Such reports will have a specific structure and content dependent on their purpose within the HRA process.
<b>Other Common Types of Ecological Report</b>	
Landscape and Ecological Management Plan (LEMP)	Provides details and specifications for the management of habitats and other features of biodiversity interest. Normally such reports are prepared in support of a planning application where the LPA requires management as a formal requirement e.g. for biodiversity mitigation, compensation or enhancement purposes. The LEMP may form a part of the information originally submitted with the application (e.g. as part of the EclA) or its provision and delivery may be secured through planning conditions or obligations. Preparation of the LEMP should, where appropriate, follow the general guidance set out in Section 5 below. The appropriate content of such a report is set out in BS42020 clause 11.1.

Construction Environmental Management Plan (CEMP)	Provides details and specifications for practical measures intended to avoid or minimise adverse effects on biodiversity during the construction process. Normally such reports are prepared in support of a planning application where the LPA requires management as a formal requirement e.g. for biodiversity mitigation, compensation or enhancement purposes. The CEMP may form a part of the information originally submitted with the application (e.g. as part of the EclA) or its provision and delivery may be secured through planning conditions or obligations. Preparation of the CEMP should, where appropriate, follow the general guidance set out in Section 5 below. The appropriate content of such a report is set out in BS42020 clause 10.2.
Ecological Monitoring Strategy (Effectiveness or Early Warning Monitoring) (As distinct from a monitoring report – see above)	Provides detailed and structured proposals for the preparation of a monitoring strategy, in advance of the commencement of development, which will be used to establish whether proposed mitigation, compensation and enhancement measures have been effective over a specified period. The strategy may also be used to provide early warning of when contingencies and/or remedial measures will be ‘triggered’ in the event that ecological objectives are not being achieved. Implementation of the strategy over time will be informed by periodic ‘Ecological Monitoring Reports’ (see above under ‘Survey and Research Reports’). The strategy may form a part of the information originally submitted with the application (e.g. as part of the EclA) or its provision and implementation may be secured through planning conditions or obligations. Preparation of the strategy should, where appropriate, follow the general guidance set out in Section 5 below. The appropriate content of such a report is set out in BS42020 clause 11.2.3.4.
BREEAM Report	Provides supplementary and summary ecological information in a standardised template format for the Building Research Establishment Environmental Assessment Methodology (BREEAM) Code assessor, in accordance with BRE requirements, to gain credits towards these schemes. This report is typically supported by other ecological reports produced for the site. The report should be prepared or reviewed by a ‘Suitably Qualified Ecologist,’ as defined by BRE.
Biodiversity Action Plan (BAP)	Provides information enabling an organisation to identify actions that it may take that are necessary to support the conservation and management of particular habitats and/or species. Biodiversity Action Plans (BAPs) may be prepared by both public and private sector organisations, and may be broad and strategic in nature or very specific to one or two habitats or species. The structure and format may need to be bespoke for the organisation in question, but BAPs can be prepared following the relevant parts of the guidance set out in Section 5 below.
European Protected Species Licence Application	Provides sufficient information in a bespoke structure and format (i.e. a template) to enable the relevant SNCO to determine applications for a derogation licence where the applicant will then be able to undertake works or activities that would otherwise be in breach of Article 12 of the Habitat Directive (as implemented in the UK and Ireland through domestic legislation e.g. through the Habitat and Species Regulations 2010).

Proof of Evidence / Witness Statement	Provides written evidence to be presented at a Public Inquiry (e.g. appeal inquiry) or Court Hearing (e.g. Judicial Review). Such a report is used to present a case on behalf of one of the parties involved. The size and structure of the 'report' will depend on the specific nature of the organisation and issues involved. However, while some of content and format may need to be tailored to the case, much of it may still be prepared following the relevant parts of the general guidance set out in Section 5 below. Such documents are also likely to be written in the first person, as they represent a personal position or opinion.
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### 3. GENERAL ADVICE

#### 3.1. Keep the intended reader or audience in mind and consider:

- Why is the report needed? Establish the purpose of the report, what it will be used for and who is the target audience. Where possible discuss this in detail with the 'client' (person or organisation by who has commissioned the report) so that 'what needs to be done' and 'how best to do it' can be gauged accurately.
  - Where a brief has been agreed with a client, follow the brief unless changes have been subsequently negotiated.
  - Following discussion with the client, be prepared to amend initial draft reports to provide additional clarity or to match a house style etc. but take care to maintain the ecological integrity of the report and its recommendations (see Section 1.1 above)
- As well as making clear the purpose of the report, it is also important to establish what it is not. For instance, for a PEAR you might include:
 

*'This report aims to provide general advice on ecological constraints associated with any development of the site and includes recommendations for further survey; it is not intended that this report should be submitted with a planning application for development of the site, unless supported by the results of further surveys and a detailed assessment of the effects of the proposed development.'*
- Who is going to use it? (e.g. statutory agencies, developers, planners, consultees, members of the public etc.) Note that if a report is going to be submitted with a planning application, it becomes a public document and may be read by a wider audience than anticipated. Any written material submitted to a public body may be subject to a Freedom of Information (FOI) request.
- What does the intended reader or audience hope to get out of the report?
- Avoid 'may' and 'possibly' and provide a definitive statement wherever possible. If this is not possible, state why language used in the report is only tentative.
- What is the level of technical and legal expertise of the intended audience? Ensure appropriate language, style and format is used relevant to the audience.
- What is the intended audience's attitude to the topic of the report and what is their level of technical and legal expertise? Tact may be needed if their attitudes are negative!
- What decisions are likely to be made as a result of the report? Ensure the implications of this are clearly understood by the author(s) of the report.
- The report may need to include a Letter of Reliance, which developers and house builders often require. Such letters require the author to vouch for the accuracy of data, though opinions are provided in 'good faith'. Letters and reports should state that they were 'produced using all reasonable skill and care' and should include a 'signed disclosure' or 'declaration of compliance with professional code of conduct' (see also Clause 6.9 of BS42020).
- The need to:
  - Avoid repetition;
  - Cross-reference text to appendices;
  - Label and reference photographs and other figures and diagrams clearly;
  - Be consistent with terminology and check accuracy of references and use recognised references;
  - Ensure proportionality (see 2.6 above).

- 3.2. Reports require an objective writing style that conveys information clearly and concisely. They are normally impersonal and written in the third person. Structure and format of the report should be discussed in advance with the client if the report is to be included in a document with contributions from several authors, or is being written for a client with a preferred house-style. Ideally, one author should be selected to act as an overall editor to ensure consistency.
- 3.3. If an ecological report is going to be incorporated into another large document (e.g. as a chapter in an Environmental Statement), the author/editor of the ES should ensure that the final document retains the main findings and conclusions of the original ecological report(s) without substantial alteration of either its content or meaning. Any significant changes should be justified and made explicitly clear and unambiguous in the final document.
- 3.4. Where significant differences exist between original and final documents, it is advisable that the author of the original ecological report is given the opportunity to confirm that the changes made do not substantially alter the content and meaning of the original ecological report or omit any key facts or conclusions (see BS42020 clause 6.12). This will ensure consistency with section 1.1. of these guidelines.
- 3.5. Pages should be clearly numbered and in most cases it is advisable to number all paragraphs. This allows easy cross-referencing, for example in formal meetings or Public Inquiries or over the telephone.
- 3.6. Headers, footers and footnotes can all be used to assist the reader. They provide a quick means to confirm document title or to identify the document date/version number or they can provide additional commentary or a reference that would otherwise interrupt the flow if included in the main text (see footnote accompanying paragraph 3.9. below).
- 3.7. Uncommon terms/symbols should be defined where they are first encountered in the text (or provide a glossary if there are many).
- 3.8. All species should be given common and scientific names (in italics) to avoid confusion. Common names should be used in the text (all in lower case unless the name includes a proper noun e.g. Daubenton's bat and whiskered bat), either with the scientific name (in italics) immediately following the first time it is mentioned, or with scientific equivalents listed in a table in an appendix. A reference should be made to the source used for nomenclature purposes, and this should be accurate throughout, e.g. the current edition of Stace for higher plants. If you are dealing with groups with shifting taxonomy (e.g. lichens) then authorities are also needed.
- 3.9. The author should be competent to write, analyse/interpret results and to make recommendations on all aspects covered by the report, or supported by a competent co-author if required. A justification of the competence of the report's author/co-authors should be provided for EclA Reports or Ecology/Biodiversity chapters of Environmental Statements (this is a requirement of the 2017 amendment of the EIA Regulations<sup>1</sup> in relation to the latter).
- 3.10. Plagiarism must be avoided and the contributions of others must be fairly acknowledged. To not give adequate recognition for the work of others may be a breach of copyright and result in legal action being taken against those responsible.

### ***Use of Maps and Data***

- 3.11. Maps (e.g. from the Ordnance Survey), online images (e.g. from Google Earth etc.) and online data sources (e.g. from the National Biodiversity Network) should only be used in accordance with relevant terms and conditions and/or copyright and licence obligations.

Note: You must not include reports from the National Biodiversity Network (NBN) without first obtaining written permission from the relevant Data Provider.

### ***Quality Assurance***

- 3.12. Once editing is complete, the draft report should be checked. Sentences can often be read in two completely different ways, leading to misinterpretation, which can be very difficult for the author to pick up. Also, note that spell-checkers will not pick up incorrect words if spelt correctly, e.g. pubic rather than public!
- 3.13. Ideally, a report should be checked by another competent ecologist. This may be easier in larger organisations, but for small consultancies and sole-traders this can also be done using someone trusted on a reciprocal basis. A sound Quality Assurance protocol should involve:
  - i. Self check by the author e.g. grammar, spelling and readability;
  - ii. Factual check to confirm information is correct, by an appropriate checker (e.g. by a colleague);
  - iii. Approval, to confirm the report meets the client's brief and is of an appropriate standard (e.g. sign off by project supervisor as QA control).
- 3.14. A draft for review should then be sent to the client, asking for comments by a specified date or giving a time period after which a final version will be issued automatically. Reasonable requests for amendments by the client should be made where these are warranted but should not change the integrity of the report (See 1.1. above).

<sup>1</sup>The Town and Country Planning (Environmental Impact Assessment) Regulations 2017  
 The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017  
 The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017  
 The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2017  
 European Communities (Environmental Impact Assessment) (Agriculture) (Amendment) Regulations 2017



3.15. Details setting out how Quality Assurance has been achieved should normally follow the title page of the report and typically may include:

- date of completion of the report prominently displayed and date of survey work, particularly if significantly different e.g. a year or two earlier;
- statement that the report has been prepared in accordance with these guidelines;
- declaration of compliance with relevant codes of professional practice;
- details of quality assurance (see 3.13. above).

## 4. MAKING A START

4.1. Remember you need to cover:

- Why the report is being written;
- Who has done the work or been involved;
- What was done, and;
- Where, how and when it was done.

**Ensure you have defined the purpose of your report first so that you use an appropriate report structure and format (see Table 1.).**

4.2. An outline structure for the report should be prepared with reference to the checklist headings in Section 5 below. Also, where appropriate, the author should:

- Read notes and analyse field data.
- Pull together related ideas/results.
- Assemble digital images to be used in the report; these can act as points of reference and they are valuable for illustrating the text.
- Select images carefully and ensure the title/description matches. Photographs may be more open to interpretation by third parties than text.
- Make use of additional sub-headings where appropriate.
- Ensure headings are in a logical order, to meet the brief and purpose of your report.
- Separate essential material for the main body of the report from material that should be put into appendices.
- Draw out main conclusions before starting to write.
- Avoid long blocks of 'cut and paste' generic text such as detailed descriptions of legislation for all species investigated, whether or not found to be present. Text should be tailored to the topic of the report and information should only be included if it is relevant and later referred to in the discussion, recommendations or conclusions.

## 5. GENERIC CHECKLIST FOR REPORT STRUCTURE

Not all sections or headings suggested here will be required for all reports, and some report types require different headings.

### ***Title page***

5.1. The title should indicate the subject matter exactly and as concisely as possible. It should be unambiguous and not easily confused with other reports dealing with other ecological matters. Wherever possible, the purpose should form part of the title e.g. Preliminary Ecological Appraisal for Freda Smith's Site at Blogsville or 'Ecological Impact Assessment for Fred Blog's Land'.

5.2. In addition, the title page should include:

- the clients name/details;
- date of the report (and version of document where relevant e.g. where more than one version of the document has been produced);
- any classification e.g. consultation draft, confidential (with reasons justified in the text which follows);
- author's(s') name(s).

### ***Summary***

5.3. It is advisable to prepare the summary last. Some readers may only read your summary, so it is important that it is self-contained, self-explanatory and captures the essence of your report. Normally it should be less than a page long and may even be limited to one or two paragraphs. Short reports of three or four pages may not need a summary.

- 5.4. The summary should contain:
- the purpose of the report including the client's brief where appropriate;
  - an introduction to the key issues;
  - a brief description of the work undertaken for the report;
  - a summary of the report's recommendations, and;
  - the report's conclusions.

### **Acknowledgements**

- 5.5. Any significant help should be acknowledged. If other people's research, results or ideas are quoted or used in the text, they should be referenced by bibliographic citation. See section 3.10 on copyright and intellectual property rights.
- 5.6. Typically the author should acknowledge:
- names/organisations of specialist sub-contractors, expert volunteers etc. (indicating clearly the extent of their contributions);
  - names of persons with whom they have had useful discussions;
  - those who have provided financial support;
  - those who have loaned equipment/software; and/or
  - those who have given in-kind help.

### **List of contents, including figures, tables and appendices**

- 5.7. List section numbers and short but meaningful headings together with their associated page numbers. Use a hierarchy of numbered sections and subsections, e.g. section 1, subsections 1.1, 1.2, 1.3 etc.
- 5.8. Provide a separate list of figures and their page numbers if necessary. Figures and tables should be numbered sequentially; where there are multiple figures or tables used they should be numbered as they appear in each chapter (e.g. Fig. 1.1, 1.2 etc. in Chapter 1).

### **Introduction and Terms of Reference**

- 5.9. The purpose of the report must be clearly stated, including any brief given to you by your client.
- 5.10. Set the scene and describe what was known at the start of the project. Try to ensure the client provides all relevant information on the proposed works/project to enable appropriate recording, discussion and/or accurate impact assessment at a later date. Giving a concise but accurate summary of the information provided by the 'client' enables the reader to understand the context of your work. Later changes to the context can then be picked up by the reader. For example, the design of a development scheme may change after an ecological survey has been completed. The need for further survey work to take account of the additional impacts is not always addressed by the developer.
- 5.11. Set the context within which the report has been written. Is it:
- Stand alone;
  - To be combined with other reports;
  - To be submitted with a planning application;
  - Does it supersede previous reports etc.?
- 5.12. Summarise the scope and limitations of the investigation (this should be in accordance with BS42020; Clause 6.7). The limitations might include time of year, weather conditions, lack of time or other resources, access, etc. These should be covered in more detail in the methodology section.
- 5.13. Provide any cross-references to other relevant documents, such as drawings showing development design or landscape planting; other relevant temporal and spatial information; earlier ecological reports (e.g. PEARS); scientific background (e.g. for the latest distribution of invasive species); and relevant legislation or planning policy, etc.
- 5.14. Provide details of any consultation undertaken in relation to the report or project and refer to the outcomes later in the report.

### **Methodology/Methods**

- 5.15. In this section you should describe:
- who carried out the work;
  - where it took place;
  - when it took place;
  - what work was done;
  - how it was done;
  - were there any constraints and limitations; and
  - if standard techniques/guidance were not followed, why not?
- 5.16. Describe what survey, experimental or impact assessment techniques were used (give references to standard techniques, taxonomic books or keys where available (see CIEEM's Sources of Survey Methods in the online Technical Guidance Section of the Institute's web site). Ensure methods used are up-to-date and follow good

practice. If surveying for protected species or species of principal importance<sup>2</sup>, state which species were looked for and the methods/signs used, even if the result was negative. If the methods used deviate from, or are only based on, standard methods, state how they differ and why (see BS42020; Clauses 6.3.6 to 6.3.8).

5.17. Provide the following information:

- Description of each survey method used in sufficient detail to allow others to validate or repeat the survey;
- Definition of the study area for each survey;
- Provide the names and qualifications (and licence numbers, if relevant) of the surveyors;
- State the dates of any surveys undertaken;
- Description of equipment or software where used (e.g. type of bat detector) for this particular investigation;
- Description of the operating conditions (e.g. weather conditions, time of year, number of surveyors etc.) - for more complex investigations consider putting these in an appendix;
- Description of constraints/limitations on the methodology (e.g. time, resources, lack of access, sub-optimal season);
- A clear statement of any assumptions that have been made;
- A description of statistical techniques and confidence limits that have been used;
- Justification for extending the survey outside of a development's boundaries (where necessary, client and landowner agreement must be sought - see CIEEM's PGS 5 *Guidance for Access to Land*);
- Explanation of how the locations used in a survey for sampling, quadrats or transect routes are made clear in the report and how they may be identified on the ground, e.g. by use of accurate GIS coordinates;
- Details of information gathered through data search and desk study, including details of who was contacted, which sources were reviewed, and the study area and date of search;
- Inclusion in the main report of only the interpretation of lists of historical records, with an explanation of how these have influenced the field surveys - long detailed lists of records should be included as an appendix if required, or state that a full list is available on request if not (see BS42020; Clause 6.11.1).

## **Results**

5.18. The results should include:

- desk study results, including historical records and records which provide contextual information from the area around the 'site';
- fieldwork;
- experimental work (note that results should only be stated in this section, not discussed);
- a clear distinction between what the facts are and what are only assumptions.

5.19. The results section is normally written in the past tense and in a passive and impersonal style (e.g. 'bats were recorded' rather than 'I recorded bats' or 'bats are present'). However, note that the baseline conditions section of an EclA Report, for example, is normally written in the present (or future) tense, as it describes what is there, or is likely to be there, at the time that an impact occurs; baseline conditions therefore require interpretation of survey results to allow this (see also 5.24. below).

5.20. Choose the clearest means of communication (e.g. words, tables, graphs, drawings or photographs) to make it easy for the reader to understand. All relevant results, providing the evidence for the discussion and conclusions, should be included. They should be complete enough for an independent ecologist to validate the conclusions drawn, but manageable and presented in summary form if possible. Photographs can be particularly helpful to readers when discussing habitats, sites, or other features, but they should not replace a clear description and interpretation in the text.

5.21. Reports providing the results of a single species survey can usefully sub-divide this section into 'desk study' and 'field survey' results. However, where the report is providing the results of numerous different types of ecological survey, or an assessment of ecological effects associated with a development, the desk study results and field survey results for a given species should be provided together, rather than in separate sections: this makes cross-referencing easier and provides a more logical flow to the report.

5.22. Where appropriate, raw data should be included in the appendices, together with appropriate metadata<sup>3</sup>. As a minimum, the latter should include details of what the data are, and why, where, when and how they were collected, and by whom. Metadata are particularly important if data becomes separated from the original report e.g. if sent to a Biological Record Centre or third party.

## **Discussion and Analysis of Results**

5.23. Take care not simply to repeat the results. Draw out meaning and implications with reference to theory, legislation, management, mitigation, etc (see 5.13. above). Arguments should be made here that link the original brief to the conclusions, following a logical sequence, as objectively as possible. Any limitations or problems with the methodology should also be discussed.

<sup>2</sup> In England, Wales and Scotland "habitats and species of principal importance for the conservation of biodiversity" are listed respectively under s.41 and s.42 of the Natural Environment and Rural Communities Act 2006 and under s.2(4) of the Nature Conservation (Scotland) Act 2004; and in Northern Ireland as a Priority Species List (undated). The country-based lists are all shown on the Joint Nature Conservation Committee (JNCC) website (<http://jncc.defra.gov.uk/>). See UK Priority Lists and click on the relevant country at: <http://jncc.defra.gov.uk/page-5717>

<sup>3</sup> Refer to CIEEM's Professional Guidance Series No. 10 *Metadata Standards*.

5.24. Depending on the nature of the report, this section may have a different heading. For example, Ecological Impact Assessments should provide the interpretation and analysis of the surveys in the baseline conditions section, rather than a separate section. This then enables the author to bring together and interpret the results of field surveys, desk study, habitat assessment, any relevant contextual information, and to consider predictable activities or events that could change the baseline conditions in the future, to describe what will be there at the time that the impact occurs.

#### **Other sections**

5.25. Particular report types may, by convention, contain different headings or additional sub-headings. EclA Reports, for example, will normally include sections such as 'Baseline Ecological Conditions' and 'Assessment of Effects and Mitigation Measures', rather than 'Results', 'Discussion' and 'Recommendations'. For more information on types of report and their purpose, see Table 1. and Appendices A and B (for PEARs and EclA Reports respectively).

#### **Recommendations**

5.26. In this section, present recommended courses of action to be taken as a result of the work and analysis undertaken so far and expand on any recommendations given in the summary. These should be as precise as possible, tailored to the purpose of the report and the client's situation, rather than a 'generic' response. You should give careful consideration to the use of terms such as 'will' or 'should'. 'Will' can be used when your recommendations have been discussed and agreed with the client. 'Should' indicates that the report is aimed at informing the client of your suggestions and gives no indication to a third party (e.g. the decision-maker) as to whether or not the client is prepared to carry them out. This distinction is important if the report is to be submitted with a planning application and especially where the recommendations may ultimately result in necessary measures being secured via planning conditions. The decision-maker therefore requires as much certainty as possible (See BS42020 clause 6.6 'Providing certainty and clarity for the decision-maker and the applicant').

5.27. The 'Recommendations' section should not include discussion.

5.28. A time limit should be given indicating how long the particular ecological data should be relied on for decision-making purposes without the need to be updated, e.g. for EPS licences 18-24 months.

#### **Conclusions**

5.29. A short section describing how the report meets the brief described in the introduction. Very briefly summarise the discussions/results in the main body of the report and the recommendations. Assess the implications of evidence already presented. For short reports, it may be appropriate to combine the conclusions and recommendations sections, where the recommendations deliver the reports objectives.

5.30. A reader should be able to pick up your report and grasp the most significant points by reading only the summary and conclusions.

5.31. Where a report has been prepared to support a planning application (e.g. an EclA Report), CIEEM would expect the report to provide a clear statement in the conclusions as to what the likely outcomes are for biodiversity if the proposed development is granted planning permission. Such implications may be presented as a table and/or as a statement of 'net losses and gains' and should provide the decision-maker with a clear understanding of the likely consequence for habitats and species likely to be affected significantly by the proposals.

#### **References**

5.32. Whatever format is used, references must provide the reader with enough information to easily track down the source material for further investigation if required. All work by other people referred to in the text must be referenced.

5.33. Information on citing references (e.g. the Harvard System of Referencing Guide) can be accessed online to ensure literature referred to in the report is acknowledged appropriately. These may include electronic reference bases e.g. Endnote.

#### **Appendices**

5.34. Appendices may be used to provide detailed, lengthy or supplementary information (e.g. raw data, species lists, supplementary diagrams, photographs, maps, glossary of terms). Removing these from the text allows the reader to concentrate on the main issues without distraction. All appendices must be clearly labelled and referred to where appropriate in the main text. Avoid large amounts of standard cut and paste text and consider carefully what information will really benefit the reader. Inclusion of very long lists/tables of species data/records received from other data providers should also be avoided, although a brief summary with interpretation of such information should be made known to the reader and the whole dataset made available on request. Ensure methods used are up-to-date and follow good practice. If surveying for protected species or species of principal importance, state which species were looked for and the methods/signs used, even if the result was negative. If the methods used deviate from, or are only based on, standard methods, state how they differ and why (see BS42020; Clauses 6.3.6 to 6.3.8).

## 6. Common Pitfalls

### 6.1. Common pitfalls include:

- Failure to establish the purpose of the report, the target audience and what it will be used for. Not considering these issues at the beginning is a common reason for reports being badly written or not being suitable for their intended purpose.
- Inappropriate or careless use of cut and paste of standard blocks of text. While often a useful time saver, these must be checked for accuracy and relevance. For instance, use of a generic paragraph for survey methods may not be appropriate if, in fact, different methods or equipment were used.
- Where a report or document has evolved through various iterations, failure to update revisions and dates of the report may lead to confusion over what version is being read or referred to.
- Not providing a clear link between the results presented and the recommendations made, or the conclusions reached.
- Discrepancy between the summary, recommendations and conclusions.
- Description of results appearing in the methodology section.
- Lack of proportionality, resulting in excessively long and detailed assessments which are not of particular relevance to the report's purpose. Striking the right balance between keeping the report succinct and ensuring that the report is sufficiently robust can be difficult and requires experience.
- Lack of proportionality within the discussion. Greater detail should be provided on key issues than on trivial ones.
- Reliance on a published survey method without justification. Consideration should always be given to survey design to ensure that the survey methods used are appropriate to the circumstances – the fact that a published survey method was followed does not necessarily mean that the survey was done appropriately!
- Failure to check and discuss the evidence base for mitigation, compensation or enhancement measure.

## 7. Other Useful Guidance

British Standards Institution (2013). *BS42020 Biodiversity – A code of practice for planning and development*. <http://eshop.bsi-global.com/ProductDetails.aspx?p=30154979&cat=Environment>

Chartered Institute of Ecology and Environmental Management (2012). *Guidelines for Preliminary Ecological Assessment*. Technical Guidance Series. <http://www.cieem.net/guidance-on-preliminary-ecological-appraisal-gpea>

Chartered Institute of Ecology and Environmental Management (2013). *Guidance for access to land*. Professional Guidance Series No. 7.

Chartered Institute of Ecology and Environmental Management (2013). *Metadata Standards*. Professional Guidance Series No. 10.

Chartered Institute of Ecology and Environmental Management (2016). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal* (version January 2016). Technical Guidance Series. <https://www.cieem.net/ecia-guidelines-terrestrial->

Chartered Institute of Ecology and Environmental Management (Ongoing). *Sources of Survey Methods*. Technical Guidance Series. <https://www.cieem.net/sources-of-survey-methods-sosm->

Regini, K. (2000). Guidelines for ecological impact evaluation and impact assessment. *In Practice, Bulletin of the Institute of Ecology and Environmental Management*, 29: 1-7.

Shepherd, P. and Green, J. (2002). Planning and implementing ecological surveys. *In Practice, Bulletin of the Institute of Ecology and Environmental Management*, 36: 7-9.

## Appendix A. Template for Preliminary Ecological Appraisal Report (PEAR)

This template should be used in accordance with the recommendations presented in CIEEM's *Guidelines for Ecological Report Writing*. The template is intended to provide a logical and reasonable structure for those preparing a Preliminary Ecological Appraisal Report (PEAR) that may be submitted to a client to identify ecological constraints and opportunities present on a site, and to make recommendations on what further work may be required to complete an EclA necessary to support a planning application. The template should be used to guide the topics and content to be included in such a report.

Section	Content
A1. Cover page	<p>Report title.  Date of report.  Name and contact details of principal author.  Name of individual/organisation who commissioned the report.  Unique reference number so that the report can be referred to, including version number (e.g. date and/or 1st, 2nd, provisional or final draft etc).</p>
A2. Quality Assurance	<p>Details of QA protocol</p>
A3. Contents table	<p>Provide page numbers for each section (and possibly also sub-sections), as well as figures and appendices.</p>
A4. Summary	<p>A one page summary of:</p> <ul style="list-style-type: none"> <li>• Purpose of the report</li> <li>• Methodology</li> <li>• Key issues</li> <li>• Conclusions</li> </ul> <p>Consider inclusion of a provisional Ecological Constraints and Opportunities Plan (ECOP) as specified in BS42020 clause 5.4 as a graphical means of presenting key information (see also A9 below).</p>
A5. Introduction	<p>Name and qualifications of principal author.  Name of individual/organisation who commissioned the report.  Site name.  Brief description of the site.  Reference to a plan showing the site boundaries with an OS base.  A brief description of the proposed project that may eventually go forward as a planning application e.g. an outline planning application for residential development of the site.  Clear statement of the purpose of the report e.g.:</p> <ul style="list-style-type: none"> <li>• To identify key ecological constraints to the proposed development</li> <li>• To inform master-planning to allow significant ecological effects to be avoided or minimised wherever possible</li> <li>• To allow the further ecological surveys needed to inform an ecological impact assessment to be identified and appropriately designed</li> <li>• To allow likely mitigation or compensation measures to be developed</li> <li>• To form a basis for agreeing the scope of the ecological impact assessment with relevant consultees</li> </ul>

Section	Content
<p>A6. Planning policy and legislation (Note: This can be included as a section in the main body of the report or can be included as an appendix)</p>	<p>Provide all relevant planning policies (national and local) that apply to the site in question. List all relevant legislation. It is important that this section is scheme-specific. Where a piece of legislation is relevant, explain why (i.e. how it relates to protected species that are/could be present).</p>
<p>A7. Methodology/Methods A7.1 Desk study</p>	<p>List the individuals or organisations that have been contacted. List the websites that have been used to search for relevant data. Describe the information that has been requested/searched for. Describe the study area (likely to vary in relation to different features). State when data searches were carried out. List any ecological reports that have been reviewed, such as previous reports for the same site, or reports for adjacent sites.</p>
<p>A7. Methodology/Methods A7.2 Field survey</p>	<p>For each field survey undertaken provide:</p> <ul style="list-style-type: none"> <li>• Brief description of methodology/methods</li> <li>• Names and qualifications of surveyors</li> <li>• Date(s) and time of day (where relevant) of surveys</li> <li>• Study area</li> <li>• Weather conditions at time of survey(s)</li> <li>• Reference to relevant guidance document (where appropriate)</li> <li>• Explanation of any departures from recommended guidance</li> <li>• Limitations</li> </ul> <p>Note: Where multiple survey visits have been undertaken, dates, times and weather conditions of surveys can be provided in a table in an appendix. Note: Where the field survey was an 'extended Phase 1 habitat survey' or the equivalent in Ireland, it is important to explain what was done in addition to the standard habitat survey, such as an assessment of the likely value of the hedgerows for dormice, or identification of any buildings or trees suitable for use by roosting bats, etc.</p>
<p>A8. Baseline ecological conditions/Results A8.1 Designated sites</p>	<p>Provide details of all designated sites of relevance (or possible relevance) to the assessment, including name, level of designation, location relative to the site, and reasons for designation. In some cases it will be relevant to include a plan showing the location of designated sites.</p>
<p>A8. Baseline ecological conditions/Results A8.2 Habitats</p>	<p>Provide a description of the habitat types present within the site and on immediately adjacent land. Focus should be given to habitat types identified as being of national or local importance for the conservation of biodiversity. This should make reference to a habitat map of the site, normally drawn in accordance with Phase 1 habitat survey methodology or the equivalent in Ireland. However, it should be noted that the habitat categories used by the Phase 1 habitat survey methodology do not mirror the habitat types considered to be conservation priorities, and further details will therefore need to be provided in some cases. The description should include all relevant information, such as dominant plant species present, notable plant species, and current management.</p>

Section	Content
<p>A8. Baseline ecological conditions/Results  A8.3 Species and species groups  Note: This can be sub-headed as follows, for example:</p> <ol style="list-style-type: none"> <li>i. Plants</li> <li>ii. Invertebrates</li> <li>iii. Amphibians</li> <li>iv. Reptiles</li> <li>v. Cirl buntings</li> <li>vi. Other birds</li> <li>vii. Bats</li> <li>viii. Dormice</li> <li>ix. Badgers</li> <li>x. Other mammals</li> </ol>	<p>Provide a description of the use of the site (or likely use of the site) by important species (national or local conservation priorities, or protected species). This should be based on a combination of desk study information, field survey data, and an assessment of the likely value of the habitats for each species present. The description for each species/group should combine the information provided from the various data sources, rather than including desk study and field survey information for the same species/group in different parts of the report.</p> <p>The detailed results of field surveys should be presented on plans (for some sites they can be included on a Phase 1 habitat map or the equivalent in Ireland) and/or in appendices.</p> <p>In some cases it will be appropriate to group species together into species groups to avoid repetition.</p> <p>A precautionary approach will need to be adopted where surveys have not been completed at the time that the report is written. Guided by the results from data searches, it will be appropriate to include the following relevant species/species groups as a minimum for all sites:</p> <ul style="list-style-type: none"> <li>• Plants</li> <li>• Invertebrates</li> <li>• Amphibians</li> <li>• Reptiles</li> <li>• Birds</li> <li>• Bats</li> <li>• Badgers</li> <li>• Other mammals</li> </ul> <p>Additional species or species groups may also be appropriate, and it may be appropriate to further sub-divide the groups to provide a detailed description of certain species for example, such as marsh fritillary butterflies, great crested newts, cirl buntings, barbastelle bats, etc.</p>
<p>A9. Ecological constraints and opportunities, and recommendations for mitigation and further survey  Note: This can be sub-headed as follows, for example:</p> <ol style="list-style-type: none"> <li>i. River X SSSI</li> <li>ii. Ancient woodland</li> <li>iii. Other habitats</li> <li>iv. Invertebrates</li> <li>v. Amphibians</li> <li>vi. Reptiles</li> <li>vii. Birds</li> <li>viii. Bats</li> </ol> <p>Or:</p> <ol style="list-style-type: none"> <li>i. Key constraints to design</li> <li>ii. Other mitigation requirements</li> <li>iii. Further surveys required</li> <li>iv. Opportunities for enhancement</li> </ol>	<p>Identify all ecological constraints to the development (including potential constraints, where there is insufficient information available to be definitive at the stage that the report is written).</p> <p>Provide details on how potentially significant effects could be avoided, minimised or otherwise mitigated. If providing details on mitigation, compensation or enhancement measures, refer to the evidence base for each.</p> <p>Provide a justification for the level of constraint (geographical importance of the feature, designated sites, legal protection, etc.). Describe the additional surveys necessary to inform a detailed ecological impact assessment, sufficient to inform a planning application, providing details on study areas and appropriate methodologies and timing for each.</p> <p>Identify opportunities for biodiversity gain.</p> <p>Provide summary tables of mitigation measures required (or potentially required) and further surveys.</p> <p>Consider use of a provisional Ecological Constraints and Opportunities Plan (ECOP) as specified in BS42020 clause 5.4 as a graphical means of presenting key information.</p>



Section	Content
A10. Conclusions	Draw conclusions in relation to the purpose of the report, ensuring these are justifiable based on the content of the report. Wherever further surveys are required, or further information is needed to inform a detailed assessment of all ecological effects, this must be clearly stated in the conclusions.
A11. References	All documents referred to in the text should be listed and appropriately referenced.
A12. Figures	Provide a plan showing the features referred to in the report (normally based on a Phase 1 habitat map or the equivalent in Ireland). It may be appropriate to provide other plans/figures to show the locations of specific ecological features referred to in the report.
A13. Appendices	Provide detailed survey methodologies and results in appendices. Site photographs can also be provided in an appendix.

## Appendix B. Template for Ecological Impact Assessment (EciA) Report

This template should be used in accordance with the recommendations presented in CIEEM's *Guidelines for Ecological Report Writing*. The template is intended to provide a logical and reasonable structure for those preparing Ecological Impact Assessment Reports that will be submitted in support of a planning application. The template should be used to guide the topics and content to be included in such a report.

For assessments which clearly relate to a single species or species group (such as assessments relating to bats in a proposed barn conversion) it will be appropriate to simplify the report structure by combining sections or deleting headings for sections which are not needed (for example, cumulative effects or compensation may not be required in some cases, particularly for very small scale projects). However, whilst it may be appropriate to simplify the structure of the report, it is likely that the contents set out below will be relevant for schemes of any scale, and any major departures from this approach should therefore be clearly justified.

Note: This template may need to be adapted for use in relation to an EciA Report for a project in the marine environment.

Section	Content
B1. Cover page	<p>Report title.</p> <p>Date of report.</p> <p>Name and contact details of principal author.</p> <p>Name of individual/organisation who commissioned the report.</p> <p>Unique reference number so that the report can be referred to, including version number.</p> <p>Details of QA protocol</p>
B2. Quality Assurance	
B3. Contents table	<p>Provide page numbers for each section (and possibly also sub-sections), as well as figures, tables and appendices.</p>
B4. Summary	<p>A one-page summary of:</p> <ul style="list-style-type: none"> <li>• Purpose of the report</li> <li>• Description of the scheme</li> <li>• Methodology/methods</li> <li>• Key impacts and mitigation measures</li> <li>• Conclusions</li> </ul> <p>Consider also use of a finalised Ecological Constraints and Opportunities Plan (ECOP) as specified in BS42020 clause 5.4 as a graphical means of presenting key information.</p>

Section	Content
B5. Introduction	<p>Name, qualifications and competence of principal author.  Name of individual/organisation who commissioned the report.  Purpose of the report.  Site name.  Brief description of the site.  Reference to a plan showing the site boundaries with an OS base.  A brief description of the project, e.g. an outline planning application for residential development of the site.  Reference to any previous reports provided for the site (e.g. a Preliminary Ecological Appraisal Report).  Clear statement of the purpose of the report e.g.:</p> <ul style="list-style-type: none"> <li>• To identify and describe all potentially significant ecological effects associated with the proposed development</li> <li>• To set out the mitigation measures required to ensure compliance with nature conservation legislation and to address any potentially significant ecological effects</li> <li>• To identify how mitigation measures will/could be secured</li> <li>• To provide an assessment of the significance of any residual effects</li> <li>• To identify appropriate enhancement measures</li> <li>• To set out the requirements for post-construction monitoring</li> </ul>
B6. Planning policy and legislation (Note: This can be included as a section in the main body of the report or can be included as an appendix)	<p>Provide all key relevant planning policies (national and local).  List all relevant legislation.  It is important that this section is scheme-specific. Where a piece of legislation is relevant, explain why (i.e. which protected species are present).</p>
B7. Methodology/Methods B7.1 Scope of the assessment	<p>Describe the scope of the assessment, including:</p> <ul style="list-style-type: none"> <li>• A description of the Zone/Zones of Influence</li> <li>• List the types of features considered, e.g. designated sites, habitats and species of principal importance for conservation of biodiversity, protected species, etc.</li> <li>• Describe any consultation that has taken place in relation to determining the scope of the assessment</li> </ul>
B7. Methodology/Methods B7.2 Desk study	<p>List the individuals or organisations that have been contacted.  List the websites that have been used to search for relevant data.  Describe the information that has been requested/searched for.  Describe the study area (likely to vary in relation to different features).  State when data searches were carried out.  List any ecological reports that have been reviewed, such as previous reports for the same site, or reports for adjacent sites (appropriately referenced).</p>

Section	Content
B7. Methodology/methods B7.3 Field survey	<p>For each field survey undertaken provide:</p> <ul style="list-style-type: none"> <li>• Brief description of methodology/methods</li> <li>• Names and qualifications of surveyors</li> <li>• Date(s) of surveys</li> <li>• Study area</li> <li>• Weather conditions at time of survey(s) and time of day (if relevant)</li> <li>• Reference to relevant guidance document (where appropriate)</li> <li>• Explanation of any departures from recommended guidance</li> <li>• Limitations</li> </ul> <p>Note: Where multiple survey visits have been undertaken, dates, times and weather conditions of surveys can be provided in a table in an appendix.</p> <p>Note: Detailed descriptions of survey methods can be provided in an appendix.</p> <p>Note: Where the field survey was an 'extended Phase 1 habitat survey' (or the equivalent in Ireland), it is important to explain what was done in addition to the standard Phase 1 habitat survey or equivalent in Ireland, such as an assessment of the likely value of the hedgerows for dormice, or identification of any buildings or trees suitable for use by roosting bats, etc.</p>
B7. Methodology/methods B7.4 Assessment	<p>Describe the assessment methodology used. In particular:</p> <ul style="list-style-type: none"> <li>• How has significance been determined.</li> <li>• What geographical contexts are used, and how have these been determined.</li> <li>• State which years have been assumed for the assessment of impacts (and for which baseline conditions have been described).</li> </ul>
B8. Baseline ecological conditions (General)	<p>Provide a clear description of the baseline conditions for all features. This should be based on the conditions at the time that the activity giving rise to an impact occurs, assuming the absence of the development. In some cases this may require consideration of the baseline conditions in multiple years (for example, to account for operational phase impacts). Include a statement of the geographical contexts within which each feature is considered to be important. Provide a summary table listing all of the relevant features and the geographical context within which each is considered to be important.</p>
B8. Baseline ecological conditions B8.1 Designated sites	<p>Provide details of all designated sites of relevance (or possible relevance) to the assessment, including name, level of designation, location relative to the site, and reasons for designation. In some cases it will be relevant to include a plan showing the location of designated sites.</p>
B8. Baseline ecological conditions B8.2 Habitats	<p>Provide a description of the habitat types present within the site and on immediately adjacent land. Focus should be given to habitat types identified as being of national or local importance for the conservation of biodiversity. This should make reference to a habitat map of the site, normally drawn in accordance with Phase 1 habitat survey methodology (or the equivalent in Ireland). However, it should be noted that the habitat categories used by Phase 1 Habitat Survey do not mirror the habitat types considered to be conservation priorities, and further details will therefore need to be provided in some cases.</p> <p>The description should include all relevant information, such as dominant plant species present, notable plant species, and current management.</p>

Section	Content
<p>B8. Baseline ecological conditions B8.3 Species and species groups Note This can be sub-headed as follows, for example:</p> <ol style="list-style-type: none"> <li>i. Plants</li> <li>ii. Invertebrates</li> <li>iii. Amphibians</li> <li>iv. Reptiles</li> <li>v. Cirl bunting</li> <li>vi. Other birds</li> <li>vii. Bats</li> <li>viii. Badgers</li> <li>ix. Other mammals</li> </ol>	<p>Provide a description of the use of the site (or likely use of the site) by important species (national or local conservation priorities, or protected species). This should be based on a combination of desk study information, field survey data, and an assessment of the likely value of the habitats for each species present. The description for each species/group should combine the information provided from the various data sources, rather than including desk study and field survey information for the same species/group in different parts of the report.</p> <p>The detailed results of field surveys should be presented on plans (for some sites they can be included on the Phase 1 habitat map or the equivalent in Ireland) and/or in appendices.</p> <p>In some cases it will be appropriate to group species together into species groups to avoid repetition.</p>
<p>B9. Description of the proposed development</p>	<p>Provide a detailed description of the proposals with reference to appropriate drawings. Include a description of how the scheme has been designed to avoid/minimise ecological effects, if relevant.</p>
<p>B10. Assessment of effects and mitigation measures Note: This can be sub-headed as follows, for example: B.10.1 Reptiles</p> <ul style="list-style-type: none"> <li>• Potential impacts</li> <li>• Mitigation measures</li> <li>• Significance of residual effects</li> </ul> <p>Note: Potential impacts can be divided into different phases, but the significance of residual effects should relate to the project as a whole (i.e. all phases combined)</p>	<p>Identify and describe all of the potential impacts of the proposed development on each feature identified in the 'Baseline Conditions' section, including impacts associated with all phases (construction, operation, restoration, de-commissioning, etc.).</p> <ul style="list-style-type: none"> <li>• Where no impact on a particular feature is predicted a clear statement to this effect should be provided with appropriate justification.</li> <li>• It is important that this section follows the same sub-headings as the Baseline Conditions section to enable the reader to see how the impacts on each feature present has been assessed.</li> </ul> <p>Identify and describe the mitigation measures required and a clear statement of how these can be secured. Refer to the evidence base, if any, for these mitigation measures.</p> <p>Provide an assessment of the significance of any residual effects. This should comprise a description of the effect and a statement of the geographic level at which the effect is likely to be significant (e.g. Significant at the national level, Significant at the county level, Not significant, etc.).</p> <p>The assessment must include a robust justification for the assessment, based on information clearly presented in the report. In many cases, this is likely to require reference to be made to appropriate publications.</p> <p>Provide a summary table listing the significance of residual effects for each feature, the mitigation measures required and the means by which mitigation measures can be secured to allow the local planning authority to ensure that appropriate planning conditions/obligations are included with any consent.</p>
<p>B.11 Cumulative effects Note: This can be included within the 'Assessment of effects and mitigation measures' or dealt with as a separate section</p>	<p>Identify any other projects which could give rise to a significant cumulative effect. Describe and assess any potential cumulative effects and determine whether they would be significant or not (and in which geographical context). Provide a robust justification for the conclusions reached.</p>
<p>B12. Compensation (if relevant)</p>	<p>Where compensation measures are considered necessary to offset significant residual effects these should be described and assessed. Refer to the evidence base, if any, for these compensation measures.</p>

Section	Content
B13. Enhancement	Provide a description of the enhancement measures proposed, over and above any mitigation required, and how these could be secured.
B14. Monitoring	Identify and describe any monitoring surveys required, including details of methods and timing, where appropriate.
B15. Conclusions	<p>Draw conclusions on the overall ecological effects of the scheme, justifying how the project accords with relevant legislation and planning policy.</p> <p>Demonstrate compliance with or deviation from relevant development plan policies and statutory obligations.</p> <p>Identify mechanisms to secure commitment to and delivery of recommended measures e.g. through planning conditions and/or through EPS licences.</p> <p>Explain clearly what the likely outcomes are for biodiversity if the proposed development is granted planning permission. Such implications may be presented as a table and/or as a statement of 'net losses and gains' and should provide the decision-maker with a clear understanding of the likely consequence for habitats and species likely to be affected significantly by the proposals.</p>
B16. References	All documents referred to in the text should be listed and appropriately referenced.
B17. Figures	<p>Provide a plan showing the features referred to in the report (normally based on a Phase 1 habitat map or the equivalent in Ireland).</p> <p>It may be appropriate to provide other plans/figures to show the locations of specific ecological features referred to in the report.</p> <p>It can be helpful to overlay the scheme layout or parameter plans with the ecological features.</p>
B18. Appendices	Provide detailed survey methodologies and results in appendices. Site photographs can also be provided in an appendix.