Biodiversity
Supplementary Planning Document

For Northamptonshire


Stanwick Lakes. Photo by Sarah Gadd

August 2015

Statutory status of the Biodiversity Supplementary Planning Document

This Supplementary Planning Document (SPD) has been prepared under the 2004 Planning and Compulsory Purchase Act (the "2004 Act"). The Biodiversity SPD is a statutory Local Development Document (LDD). It will cover the whole of Northamptonshire, but will be adopted by each Local Planning Authority as a statutory SPD.

The Biodiversity SPD was prepared in accordance with the Town and Country Planning (Local Planning) (England) Regulations 2012 (Statutory Instrument 2012 No. 767) (the "2012 Regulations"), which set out the minimum requirements for the preparation of an SPD. It is essential for these requirements to be met in order for this document to be classified as a statutory LDD, thereby supplementing statutory Local Plans.

This SPD will supplement policies within the North Northamptonshire Core Spatial Strategy, adopted June 2008 and West Northamptonshire Joint Core Strategy Local Plan (Part 1), adopted December 2014. It is also consistent with the draft North Northamptonshire Joint Core Strategy 2011-2031. The specific preparation process for the Biodiversity SPD is directed by 2012 Regulations 12-14 and 35. The process also needs to have regard to the relevant Statements of Community Involvement (SCI).

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1. Introduction

Biodiversity is a key aspect of sustainable development. Every local authority has a statutory duty to have regard, so far as is consistent with the proper exercise of its functions, to the purpose of conserving biodiversity.[1] This duty is addressed in part by including nature conservation policies in Northamptonshire's core strategies and saved policies in the old Local Plan or Local Plan Part 2 for each borough/district.

Application

This Supplementary Planning Document (SPD) is designed to be used by those considering and applying for planning permission in Northamptonshire. It may also be a useful reference for those developing planning policy and making site allocations.

Aims

This SPD explains how biodiversity shall be integrated into the development process to ensure that legislation and policy requirements are met and best practice standards are achieved. It offers a standardised approach which all applicants should follow. The SPD expands on the main principles set out in the National Planning Policy Framework and relevant local planning policies, and should be used together with expert ecological assessment of the details of each specific case.

2. Definitions

Biodiversity (a contraction of 'biological diversity') refers to the number, variety and variability of living organisms. It is often defined in terms of genes, species and ecosystems. Biodiversity is widely considered to be a measure of ecosystem quality or health: greater biodiversity indicates better health.

Biodiversity features include:

- Species and their habitats (including feeding, resting and breeding areas): note this may include features like trees and buildings that could hold protected species (*e.g.* owls, bats)
- Statutory and non-statutory nature conservation sites
- UK and Local Biodiversity Action Plan habitats and species
- Habitats and Species of Principal Importance for England (under section 41 of the Natural Environment and Rural Communities Act 2006)
- Features which provide links/corridors or stepping stones from one habitat to another.

Biodiversity impacts include but are not limited to:

- Loss of, or damage to, all or part of an important site for biodiversity
- Habitat fragmentation, isolation and removal or severance of wildlife corridors (Figure 1)
- Introduction or spread of invasive non-native species
- Soil, air or water contamination
- Disturbance and/or displacement, *e.g.* from recreational activity
- Predation and/or harassment by domestic pets
- Light pollution
- Reduction/loss of species resources (*e.g.* food, water, shelter)
- Interruption to an established management regime, habitat neglect

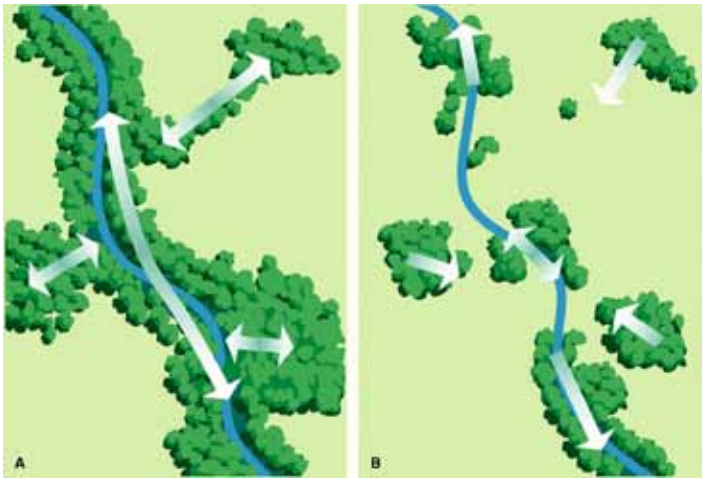


Figure 1 Habitat corridors (A) allow species to move through the landscape. Where corridors are severed (B) species are confined to small patches of habitat, leading to increased local extinction.

1 Natural Environment and Rural Communities Act (2006) Section 40.

Biodiversity impacts can be:

- Permanent or temporary
- Direct or indirect
- Short-term or long-term
- Cumulative (i.e. significant when the impacts of multiple small developments are taken into account)

Natural England should be consulted as early as possible where a development could impact a European site[2] or Site of Special Scientific Interest. Where a European Protected Species could be affected, applicants should consult as early as possible Natural England's standing advice on protected species.[3] If one or more European Protected Species are likely to be affected then Natural England's licensing process must be followed.

Certain types of development must be assessed in more detail through Environmental Impact Assessment (EIA)[4] and where required Habitats Regulations Assessment (HRA)[5] procedures. Please refer to relevant guidance[6] for more information on these requirements.

3. Legislation and policy base: key messages

Biodiversity conservation planning policy is supported by a national and international legal and policy base (Annex 2). Key messages for development include:

- Local planning authorities have a statutory duty to have regard to conserving biodiversity as part of the planning process.
- Local planning authorities are expected to ensure their planning decisions are based on up-to-date information.
- Biodiversity features of value frequently occur outside designated sites and these should be conserved, enhanced and additional features created as part of development.
- Maintaining current levels of biodiversity is not sufficient. Development should provide a net gain in biodiversity where possible, guided in part by the Local Biodiversity Action Plan.
- Northamptonshire supports a range of sites, habitats and species of national and international importance (a list of habitats and species can be found in Annex 1). Local authorities have a particular responsibility to promote their maintenance and long term conservation as part of the planning process.



Biodiversity in development photo case study:

Tree planting

The award-winning Accordia development in Cambridge uses a range of arboricultural techniques to incorporate 700 mature trees plus supplemental planting. The scheme provides three times the open and wooded green spaces compared to other developments locally. Photo by John Lord

2 In Northamptonshire, the Upper Nene Valley Gravel Pits Special Protection Area (SPA)

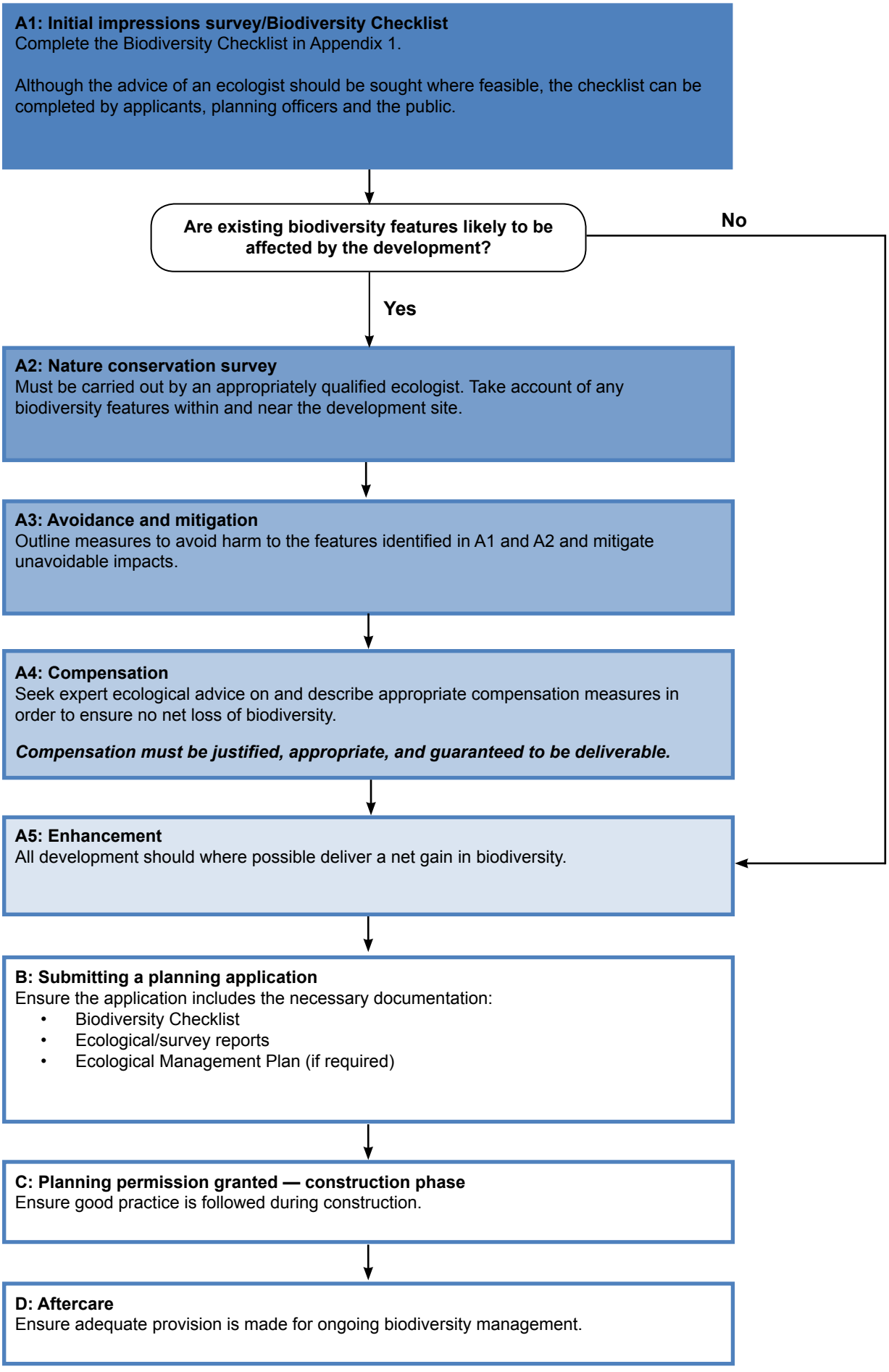
3 Available at GOV.UK. 2014. Planning and development guidance – Protected species and sites: how to review planning proposals [ONLINE]. https://www.gov.uk/protected-species-and-sites-how-to-review-planning-proposals. Accessed 20 November 2014.

4 EIA Directive (85/33/EEC as amended by 97/11/EC and 2003/35/EC)

5 Habitats Directive (92/43/EEC), which concerns development proposals that may directly or indirectly affect the designated interest of European protected sites.

6 Re EIA, Planning Practice Guidance explains the requirements of the Town and Country Planning (EIA) Regulations 2011. Please see http://planningguidance.planningportal.gov.uk/blog/guidance/environmental-impact-assessment/. HRA guidance is available from the European Commission (European Commission. 2002. Assessment of plans and projects significantly affecting Natura 2000 sites. Luxembourg: Office for Official Publications of the European Communities. Available at http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/natura_2000_assess_en.pdf.) Accessed 21 October 2014.

4. A step by step guide to building nature into development



5. Preparing and submitting planning applications

Stage A: Preparing to submit a planning application

Biodiversity impacts are most easily avoided when identified in the earliest stages of development. Recognising biodiversity features early on also offers the best chance of incorporating them into the development design. It is essential that applicants ensure they have all necessary ecological and planning policy information. Doing this at the outset reduces the risk of delays or objections caused by lack of information. Most ecological surveys can only be carried out at specific times of year so it is important that this be built into the development schedule (refer to Survey Calendar in Appendix 2).

It is equally important to make sure there is not a long gap between conducting surveys and submitting the application. Some ecological data may become out of date after only a couple of years. Applicants are advised to ensure that all supporting information is current and ready to be submitted as a single package.

Biodiversity in development photo case study: Swift bricks/boxes



A young swift looks out of a Schwegler panel installed over a cavity in a new house in Fulbourn, Cambridge. Photo courtesy Action for Swifts

Collecting ecological information is a two step process:

1. Biodiversity Checklist: complete this form to identify features in and around the application site which may be of biodiversity value.
2. Ecological survey: if the Biodiversity Checklist identifies features of potential value, a more thorough assessment of those features should be carried out.

It is commonly thought that habitat and species surveys can be postponed until after determination and then addressed by condition. ***Part IV of ODPM Circular 06/2005 makes it clear that this practice is not acceptable in almost all cases.*** This is supported by legal precedent.[7] If surveys are carried out after planning permission has been granted and they reveal major impacts on wildlife, there is no reasonable way for the local planning authority to exercise additional control, amend the application or revoke permission.

Stage A1: Initial impressions survey/Biodiversity Checklist

The Biodiversity Checklist (Appendix 1) is a simple survey that should be used to detect features that could be at risk and identify any surveys required. The Biodiversity Checklist can be completed by the applicant, although ecological advice at this stage is advised.

Checklist answers must be transferred to the '1APP' planning application form (Question 13: Biodiversity and Geological Conservation). ***If the answer is yes to any part of 1APP Question 13, the relevant ecological surveys must be provided with the application for the biodiversity impact to be assessed.***

Where the Biodiversity Checklist (Appendix 1) detects that an application could affect the Upper Nene Valley Gravel Pits SPA, applicants should consult the Upper Nene Valley Gravel Pits SPA Supplementary Planning Document.

The Biodiversity Checklist has been designed to detect the majority of biodiversity features which could be affected by development. It is important to note however that protected species can occur in very unlikely places.

Attempts to exclude or remove biodiversity features could constitute a criminal offence and should not be undertaken.

7 R (on the application of Simon Woolley) v Cheshire East Borough Council. 2009. The judgment clarifies for the first time the legal duty of a Local Planning Authority when determining a planning application for a development which may have an impact on European Protected Species.

Stage A2: Nature Conservation Survey

Survey Methodology

Surveys should take account of all the possible biodiversity features identified by the Biodiversity Checklist and any others which may later become apparent. Standard survey methods should be used: a list of these is available at http://www.cieem.net/sources-of-survey-methods-sosm-[8]. Where protected species surveys are required, applicants should refer to government planning advice[9], available at https://www.gov.uk/construction-near-protected-areas-and-wildlife.

Most species surveys can only be conducted at certain times of year. If it is necessary to vary the method used from accepted survey methods the reason should be explained clearly (and ideally agreed with relevant experts before submitting the application), as should the effect on the reliability of the results. Optimal habitat and species survey times are presented in the Ecological Survey Calendar in Appendix 2.

All ecological surveys should also include an 'extended Phase I Habitat Survey' to assess the plant communities and habitat types present on site. Areas identified as being of botanical interest should be re-surveyed in detail to confirm their extent and conservation value.

Consultants should take account of historical species records for the site. These are available from the Northamptonshire Biodiversity Records Centre (NBRC) http://www.northantsbrc.org.uk, and for certain species (*e.g.* bats) from county specialists. These data, along with initial survey work, may identify further survey needs that were not apparent from the Biodiversity Checklist (*e.g.* past use of the site by protected species). As long as there is a reasonable likelihood of a species being present and affected by the development specific surveys must be conducted to confirm its presence or likely absence.

Some species records are also available from the National Biodiversity Network Gateway (NBN) https://data.nbn.org.uk/. *Please note that NBN data are supplementary to, and not a substitute for, locally derived NBRC records. Reliance solely on NBN data is not acceptable and may constitute a violation of NBN Terms and Conditions.*

Biodiversity features near the site need to be assessed as well as those on the site. 'Near' will vary in its meaning depending on the development's zone of influence and the relative sensitivity of species and habitats in the surrounding landscape.

Applicants of major and/or complex proposals, or proposals in ecologically sensitive areas, are encouraged to consult with relevant nature conservation organisations about the proposal and the scope of ecological surveys to be undertaken. A list of contacts and organisations is provided in Annex 3 to this SPD.

The methods, results and conclusions of any survey must be compiled and submitted in writing as part of the planning application.



Biodiversity in development photo case study: Arable plants

Important Arable Plant species were found on a development site in Kettering. Arable plants can lie dormant in the soil for years until conditions are right. The developer is storing the soil and will use it to create allotments, which will provide a good disturbance regime for these rare plants. Photo by Dean Morley

8 Chartered Institute of Ecology and Environmental Management. 2014. Sources of Survey Methods (SoSM) [ONLINE]. Available at http://www.cieem.net/sources-of-survey-methods-sosm-. Accessed 24 March 2014.

9 GOV.UK. 2014. Planning and development – guidance: Construction near protected areas and wildlife [ONLINE]. Available at https://www.gov.uk/construction-near-protected-areas-and-wildlife. Accessed 21 October 2014.

Choosing Consultants

Ecological surveys should be undertaken by competent persons and following appropriate survey methods. The Chartered Institute of Ecology and Environmental Management CIEEM maintains a list of members who offer commercial consultancy services. The Environmental Consultants Directory website offers a similar search.

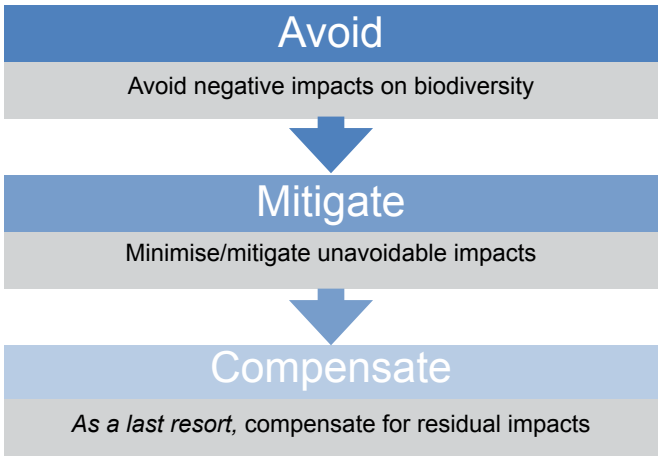
Before appointing an ecological consultant, it would be prudent to make enquiries about their abilities and experience. Prospective clients may wish to ask about the following:

- Membership of an appropriate professional body. Individuals employed by any consultancy should be eligible for membership of the Chartered Institute of Ecology and Environmental Management (CIEEM). The use of CIEEM members is strongly advised.
- Possession of relevant wildlife licence(s) (where applicable). Some protected species can only be handled or trapped by personnel holding specific government licences.
- Previous experience. Consultants should be asked for examples of recent work and a list of references so you can verify the standard of work and value for money.
- Knowledge of the local area. Ecologists with local knowledge may be better able to assess the implications of a scheme within the local context.
- Costs. These vary widely so you may wish to seek more than one quotation. As with any sort of professional service, it is helpful to be as clear as possible about what is required and what will be included in the quoted price.

Stage A3: Avoidance and mitigation

Ecological survey findings should be carefully considered from the earliest design stage of a development. The overall objectives should be to avoid harm, mitigate potentially negative impacts and integrate existing biodiversity into the scheme. This involves following the 'mitigation hierarchy' (Figure 2).

Figure 2 Mitigation hierarchy for addressing impacts on biodiversity features



Steps must first be taken to ***avoid*** any likely significant impacts to biodiversity, for example by:

- Designing the site in such a way as to retain any important biodiversity features
- Scheduling works when key species are not active or breeding.

Avoidance is often the cheapest and most effective way of reducing potential impacts but it requires biodiversity to be considered at the very earliest stages of planning.

Unavoidable impacts should be mitigated. ***Mitigation*** means taking steps on the site itself to minimise the duration, intensity and/or extent of impacts that cannot be avoided entirely. This might include:

- Adapting construction methods to reduce pollution
- Altering site plans to minimise disturbance to sensitive species or habitats.

Effective mitigation can eliminate some negative impacts. Mitigation should not be confused with compensation, which is covered in the next section.

Stage A4: Compensation

All on-site mitigation options should be exhausted before compensation is even considered.[10] Compensation schemes are rarely successful in replacing what has been lost,[11] and it is far better not to cause damage in the first place than to try to compensate for it later. Unlike mitigation, compensation is usually carried out off-site and often involves major habitat restoration or creation to make up for what is being lost to development.

Compensation measures should adhere to the following principles:

- Successful recreation or translocation of the biodiversity feature should be reasonably certain.
- Wherever possible, compensation habitats should be created to a suitable quality before damage takes place, allowing species to colonise it from the area to be lost. Some features (e.g. hedgerows, ponds, badger setts) need time to mature and function ecologically before they will offer effective alternative habitat.
- Compensation will often require delivering much more habitat than what has been lost, to account for failure risk, climate change effects or other factors.
- Measures should be in place to secure the ongoing management of the compensation.

Biodiversity is extremely complex: even with full knowledge it would not be easy to quantify. It is therefore beyond the scope of this SPD to define how to calculate required compensation. Instead, each situation must be treated individually and expert ecological advice should be sought. *Compensation will be acceptable only where independent expert advice indicates that there will be a high probability of success.*

In accordance with the UK Government Sustainable Development Strategy (2005), environmental costs should fall on those who impose them (the 'polluter pays' principle).[12]

"If significant harm [to biodiversity] cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused."[13]

Biodiversity in development photo case study: Living roofs



Sheffield's West One is a mixed use development with three green roofs. Its 450 apartments proved to be so desirable that 95% were sold prior to completion. The development now features in Sheffield University's tour of green roofs. Photo by Qi-Guang Chew

Biodiversity in development photo case study: Tree planting



As part of a local regeneration project 1800 new trees were planted at Riverside Park Industrial Estate in Middlesbrough. Occupancy rates subsequently rose from 40 – 78%. Photo by Stacey Dougal

10 The Parliamentary Office of Science and Technology. 2011. POSTNOTE Number 369: Biodiversity Offsetting [ONLINE]. Available at http://researchbriefings.parliament.uk/ResearchBriefing/Summary/POST-PN-369. Accessed 6 August 2015.

11 South West Ecological Surveys, Levett-Therivel Sustainability Consultants and Oxford Brookes University. 2004. Strategic Environmental Assessment and Biodiversity: Guidance for Practitioners. Report to Countryside Council for Wales, English Nature, Environment Agency and Royal Society for the Protection of Birds [ONLINE}. Available at https://www.rspb.org.uk/Images/SEA_and_biodiversity_tcm9-133070.pdf. Accessed 30 July 2015.

12 HM Government. 2005. Securing the future: delivering UK sustainable development strategy. London: TSO, p. 16.

13 Communities and Local Government. 2012. National Planning Policy Framework, paragraph 118.

Stage A5: Enhancement: delivering 'net gain' in biodiversity

Even in cases where mitigation or compensation is deemed unnecessary, planning policy requires new development to provide a net gain in biodiversity where possible[14]. This should be appropriate to the scale, type and location of the development.

Biodiversity enhancements should adhere to the following principles:

- Management plans and long-term funding must both be in place to ensure enhancements are sustainable and result in a lasting benefit to biodiversity.
- Enhancements should add to existing habitat networks/ wildlife corridors where they exist (see Figure 1). This is particularly important on sites within or adjacent to the Nene Valley Nature Improvement Area (NIA) (Figure 3), where developments of a scale to contribute a significant, quantifiable benefit, or conversely undermine the delivery of NIA objectives will be expected to enhance and improve the ecological network of the NIA.
- Public open space should include natural and semi-natural habitats. Larger spaces are logistically easier and more cost effective to manage than smaller ones. They also make a greater wildlife and amenity contribution. In areas with several contiguous development sites applicants should consider working together to create larger and more effective habitat areas.
- Enhancements should seek to contribute to Biodiversity Action Plan objectives.[15]
- Enhancements which also provide flood attenuation or sustainable drainage, improve ecosystem services or deliver other benefits will be welcomed.
- Opportunities should be taken to incorporate biodiversity into the fabric of buildings, for example:
  - Living roofs and/or living walls. These promote urban biodiversity while reducing storm water runoff and providing building insulation, reducing cooling costs in summer (not appropriate for Listed Buildings or most traditional buildings).
  - Swift and swallow bricks, which are mortared directly into brick walls
  - Bat access tiles for roofs, bat bricks, bat cavities for walls.[16]
- Where possible and practical, native species should be used in the landscaping scheme. Native species should be appropriate to the local environment and to the extent possible sourced from local seed. The Flora Locale website www.floralocale.org has a directory of suppliers of locally sourced seed and plants.
- Ornamental plantings should include a substantial proportion of species and varieties which support bumblebees, butterflies and other pollinators. Landscaping schemes should include plants which flower at different times throughout the year. The RHS 'Perfect for Pollinators' lists[17] are an excellent starting point for creating pollinator-friendly landscaping.
- Tree species should be considered within both the existing ecological context and predicted climate change conditions. The Forest Research website (www.forestresearch.gov.uk) offers advice on choosing trees for climate change resilience.

Many plant species which are native to the UK are not in fact found in Northamptonshire, and some species are only found in certain parts of the county. Seed and planting mixes should be appropriate to the location. Information on species distribution can be found in *The Flora of Northamptonshire and the Soke of Peterborough*, available at some libraries.



Water avens *Geum rivale* is found in most commercial wetland seed mixes but is not native to Northamptonshire. Photo by Axel Kristinsson

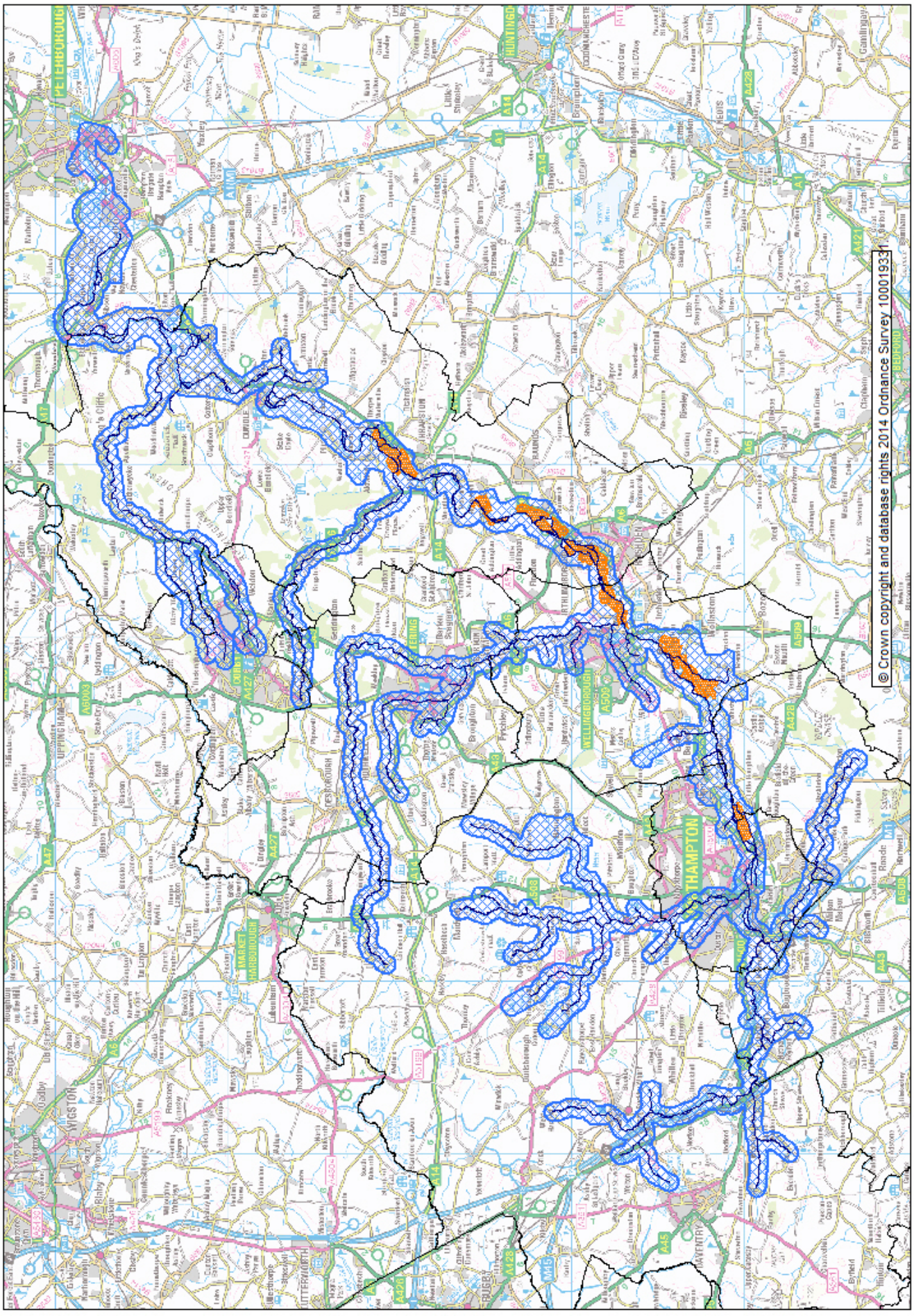
14 Communities and Local Government. 2012. National Planning Policy Framework, paragraph 109.

15 Northamptonshire Biodiversity Partnership. 2008. Northamptonshire Biodiversity Action Plan http://www.northamptonshirebiodiversity.org.

16 More ideas can be found in: Murphy B, Gunnell K and Williams C. 2013. Designing for Biodiversity: A Technical Guide for New and Existing Buildings, 2nd edition. London: RIBA Publishing, 176 p.

17 The Royal Horticultural Society. 2014. Plants for Pollinators [ONLINE]. http://www.rhs.org.uk/science/conservation-biodiversity/wildlife/encourage-wildlife-to-your-garden/plants-for-pollinators. Accessed 16 May 2014.

Figure 3 Nene Valley Nature Improvement Area (NIA). The Upper Nene Valley Gravel Pits SPA is shown in orange.



Stage B: Submitting a Planning Application

By the time a planning application is ready for submission, the Biodiversity Checklist should have been completed and depending on the outcome, all relevant ecological surveys should have been completed. The process described in stages A3 to A5 of this SPD should also have been documented. Planning applications should include:

- Survey reports for any biodiversity features identified as at risk in the Biodiversity Checklist. If there are none, a statement should be included explaining why and acknowledging that the applicant is aware that it is a criminal offence to disturb or harm protected species should they subsequently be found or disturbed.
- A statement explaining the steps planned to address the conservation of any existing biodiversity features, so far as possible
- Appropriate proposals for biodiversity enhancement
- Ecological Management Plan (EMP) if required (see Stage D below).

Detailed validation requirements need to be checked with each authority as they can differ. If it is identified that the application will affect features clearly specified in the validation requirements (*e.g.* a designated site or a feature likely to contain protected species), then in the absence of relevant biodiversity information the planning authority may judge the application to be invalid.[18]

Ecological reports

Ecological survey reports should:

- Describe how stages A1 and A2 have been achieved
- Locate and describe existing biodiversity features and their significance, with scale plans where appropriate
- Describe how stages A3, A4, A5, C and D would be achieved
- Provide contact details, qualifications and experience of all relevant personnel.

Following good practice as set out in this SPD will avoid unnecessary delay during the determination process.

Applicants are advised to also consider other SPDs which may be in place in the local authority.



Biodiversity in development photo case study: Wildflower planting

In London's Clapton Park Estate low maintenance flower beds have been created along fences, around trees and in empty lawns, creating a vibrant and colourful estate. This successful project had its own garden at the 2007 Chelsea Flower Show, winning a silver gilt medal. Photo courtesy David White Design



Biodiversity in development photo case study: Sustainable Drainage Systems (SuDS)

Property values in Elvetham Heath, Fleet tend to positively reflect their proximity to the development's SuDS basins and ponds. Public consultation has revealed a high regard for this scheme, which incorporates a range of native plant species. Photo courtesy Susdrain

18 Town and Country Planning (Development Management Procedure)(England)Order 2010 SI 2010 No 2184 Article 10(5)

Stage C: Planning Permission Granted: the Construction Phase

As a project progresses to the construction phase the mitigation strategies outlined in the environmental statement (or other ecological reports) must be put into practice. A Construction Environmental Management Plan (CEMP) is best practice and helps manage the environmental effects of construction.[19] A CEMP includes a risk assessment identifying all aspects of construction that could have an environmental impact and outlines management measures designed to eliminate and/or minimise the identified impacts.

Where the ecological impacts of a development are significant or the development site is large and includes a range of ecological features, an Ecological Clerk of Works (ECoW) should be employed. The ECoW's role is to guide and advise on how to avoid or minimise ecological impacts during site preparation and construction.[20] An ECoW will oversee the construction period and advise on the resolution of ecological issues as they arise, to protect the on-site features, habitats and species. An ECoW will ensure that all landscaping and ecological works, including habitat creation projects and mitigation for protected species, are undertaken in accordance with the Ecological Management Plan (see below) and the various method statements agreed with the Local Planning Authority.

The decommissioning or demolition of some structures may also require employment of an ECoW, where the potential impacts on biodiversity features may be significant.



Biodiversity in development photo case study: Wildlife tunnels

Wildlife tunnels like this one built under the A47 Earl Shilton Bypass in Leicestershire reduce roadkill incidents by helping badgers, newts and other animals cross the road safely. Fencing installed along the road helps guide animals toward the tunnel. Photo courtesy Leicestershire County Council



Biodiversity in development photo case study: Sustainable Drainage Systems (SuDS)

Small SuDS can provide property-scale biodiversity benefits. This retrofit project attenuates roof water from a social housing block in Islington, allowing one of the roof downpipes to be disconnected and reducing peak flow from the site. Photo courtesy Susdrain

19 [BSI] British Standards Institution. 2013. BS42020:2013 Biodiversity — Code of practice for planning and development. Section 10.2 Construction environmental management plan (CEMP). London: BSI.

20 The Association of Environmental & Ecological Clerks of Works. 2011. About AEECoW: Role of an Env/ECoW? [ONLINE]. http://www.aeecow.com/role-of-an-aeecow.html. Accessed 30 July 2015.

Stage D: Aftercare

Habitats retained or created through development should be maintained in perpetuity. 'In perpetuity' means for the life of the development, or in legal terms 99 years.[21] Temporary developments may require shorter-term management.

Where a significant amount of habitat is to be retained, restored or created the local planning authority may use a planning condition to require the production of an Ecological Management Plan (EMP)[22]. The EMP identifies the biodiversity features which will be managed to maintain and enhance the site's nature conservation value. It sets out objectives for these habitats, with detailed management specifications and a monitoring programme of ten years or more. The EMP must be fully costed and specify how the management and monitoring will be funded.

Applicants who envisage a non-governmental or public sector organisation taking on a role in long term management should contact the appropriate organisations as early as possible, and certainly well before submitting a planning application.



Biodiversity in development photo case study: Swift bricks/boxes

An external swift box and integral swift bricks (air brick liners) retrofitted into the gable end of a house in Worlington, Suffolk. The external box was occupied within two months of installation. Photo courtesy Action for Swifts



Biodiversity in development photo case study: Living roofs

Living roofs needn't be large: this one was installed on a Sheffield Botanical Gardens gazebo affectionately known as 'the onion'. Photo by Andrea Micheloni

21 The Environment Bank Ltd (2013). Frequently asked questions: biodiversity offsetting [ONLINE] http://www.environmentbank.com/docs/FAQs_Offsetting.pdf Accessed 19 September 2014.

22 British Standards Institution. 2013. BS42020:2013 Biodiversity — Code of practice for planning and development. Section 9.2.3 Conditioning biodiversity/ecological strategies, plans and schemes. London: BSI.

Glossary

Biodiversity: (a contraction of 'biological diversity') refers to the number, variety and variability of living organisms. It is often defined in terms of genes, species and ecosystems. Biodiversity is widely considered to be a measure of ecosystem quality or health: greater biodiversity indicates better health.

Compensation: measures such as habitat creation, taken off-site, which offset the residual ecological impacts after avoidance and mitigation have been undertaken. Compensation is a last resort and should only be considered where there are residual biodiversity impacts which cannot be mitigated. Strict tests must be met before compensation is considered.

Construction Environmental Management Plan (CEMP): a document that details the principles, practices and procedures for monitoring and managing the environmental effects of a project in the run up to and during the construction phase.

Designated sites: a collective term for the suite of statutory and non-statutory nature conservation sites (see below)

Ecological Clerk of Works (ECoW): an environmental or construction professional with direct responsibility for monitoring compliance with environmental legislation, policy or mitigation. An ECoW may be engaged during the construction or operation phase of any development where environmental compliance requires monitoring or auditing. An ECoW will usually be an appropriately qualified professional such as an environmental consultant, civil engineer, surveyor, project manager or ecologist.

Ecological Management Plan (EMP): a site-specific document that includes the processes and instructions to manage a site and its operations in such a way as to protect and enhance the biodiversity and ecology of the site and surrounding area. The scope and content of an EMP will depend on the scale and type of project or development for which it is to be used.

Ecosystem services: the benefits which the natural environment provides to humans. These are generally classified as 1) supporting services (*e.g.* soil formation, photosynthesis), 2) provisioning services (*e.g.* food, fibre, fresh water), 3) regulating services (*e.g.* pollination, water purification) and 4) cultural services (*e.g.* recreation, spiritual enrichment).

Enhancement: adding to the pre-existing ecological value of a site for its continued benefit for wildlife. Enhancement measures are additional to any avoidance, mitigation or compensation. Biodiversity enhancement is required where possible per paragraph 109 of the National Planning Policy Framework.

Environmental Impact Assessment (EIA): a process of evaluating the likely environmental impacts of a proposed project or development, taking into account interrelated socio-economic, cultural and human health impacts, both beneficial and adverse. In EU member states the EIA process is governed by the EIA Directive (85/337/ECC) as amended.

European Protected Species: species of plants and animals – not including birds – listed in annexes II and IV of the EU Habitats Directive and protected by law throughout the European Union. Bird species receive separate protection under the Birds Directive.

European site: one of two types of European statutory nature conservation designations. Special Protection Areas (SPA) are classified under Council Directive 2009/147/EC on the conservation of wild birds (this is the codified version of Council Directive 79/409/EEC as amended). This is generally known as the Birds Directive and protects rare, threatened or vulnerable birds listed in Annex I of the Directive. Special Areas of Conservation (SAC) are classified under Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (known as the Habitats Directive) which protects habitats (annex I) and species (annex II) of the Directive. The entire suite of European sites is known as the Natura 2000 Network. Northamptonshire's only European site is the Upper Nene Valley Gravel Pits SPA.

Habitat connectivity: the degree to which the landscape facilitates or impedes species movement between patches of habitat. Connectivity influences local gene flow, adaptation, colonisation and extinction, affecting in particular the ability of organisms to move through the landscape in response to climate change.

Habitat fragmentation: the process by which habitat loss results in the division of larger, continuous habitats into smaller, more isolated remnants. Fragmentation disrupts ecological processes, isolates species populations and leads to reduced species richness (i.e. reduced biodiversity).

Habitats Regulations Assessment (HRA): required under Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (The Habitats Directive), the process of determining likely significant effects and (where appropriate) assessing adverse impacts on the integrity of a European site.

Invasive non-native species: any non-native animal or plant that has the ability to spread causing damage to the environment, the economy, our health and the way we live

Local Biodiversity Action Plan (LBAP): a framework for habitat and species conservation at the local — in most cases county — level. LBAPs highlight species and habitats that are of particular value locally and nationally, and outline measures for their conservation. They are usually guided by an LBAP partnership of local authorities, statutory agencies and conservation organisations.

Mitigation: measures that aim to reduce and/or minimise the risk of an impact on wildlife, for example changes to timing, engineering design or technique. Depending on the kind of impact and the location of the development, mitigation may be necessary outside the site boundary.

Nene Valley Nature Improvement Area (NIA): one of the original 12 ecological networks recognised in the National Planning Policy Framework and established to reconnect wildlife habitats and help species respond to the challenges of climate change. The Nene Valley NIA extends from Daventry to Peterborough and includes the River Nene and its main tributaries.

Non-statutory nature conservation site: an area of land designated for its nature conservation value but which does not receive statutory protection. Some non-statutory sites may however receive a degree of protection under national or local policy. In Northamptonshire these sites include Local Wildlife Sites (LWS), Local Geological Sites (LGS), Potential Wildlife Sites (PWS) and Protected Wildflower Verges (PWV).

Northamptonshire Biodiversity Records Centre (NBRC): the biological and geological information centre for Northamptonshire County. The NBRC operates as a non-profit organisation providing access to information about species, designated wildlife sites and geological sites. Data held at the NBRC come from a number of sources including local voluntary recorders and conservation organisations.

Phase I Habitat Survey: a standardised system for classifying and mapping wildlife habitats in all parts of Great Britain, including urban areas. A Phase I Habitat Survey will also include target notes on any features of interest, for example the presence of rare species, veteran trees or important habitat. An 'Extended' Phase I Survey is more detailed, particularly with regard to vegetation. Phase I surveys can be conducted at any time of year although vegetation is easier to identify in spring or summer.

Semi-natural habitat: any habitat that is human managed (*e.g.* mown, grazed, coppiced, burned) or where human-induced changes can be detected, but which still seems a natural habitat in terms of species diversity and ecological complexity. Semi-natural habitats have resulted from human activities — mostly traditional agriculture and shepherding — and have evolved into plant and animal communities of great interest and high biological diversity. They are therefore part of Britain's agrarian and social history.

Statutory nature conservation site: an area of land which receives some form of statutory protection for its nature conservation value. In Northamptonshire these include Special Protection Areas (SPA), National Nature Reserves (NNR), Sites of Special Scientific Interest (SSSI) and Local Nature Reserves (LNR).

Veteran tree: a tree that is of interest biologically, culturally or aesthetically because of its age, size or condition. Some trees are instantly recognisable as veterans but many (*e.g.* old coppice stools) are less obvious. The girth of a tree is not a reliable criterion because different species and individuals of tree have very different life spans and grow at different rates.

Appendix 1 Biodiversity Checklist

Section 1A Designated Sites and Priority Habitats (1APP Question 13b)

Please answer ALL questions		Please tick ☑ as appropriate	
Q1	Is the application for any of the following: • Residential development which would increase the number of units (*e.g.* C1, C2, C3) • Tourism or leisure facilities (*e.g.* D2) • New car park, or an increase to capacity of an existing car park **AND** Within 3km of the Upper Nene Valley Gravel Pits SPA?	**YES ☐**	**NO ☐**
Q2	Is the application for Industrial development/warehousing (*e.g.* B2, B8) **AND** Within 1km of the Upper Nene Valley Gravel Pits SPA?	**YES ☐**	**NO ☐**
If you have answered YES to Q1 or Q2 above, please contact Natural England and refer to the *Upper Nene Valley Gravel Pits SPA Supplementary Planning Document*			
Q3	Please check whether and how the application could affect a SSSI (at http://magic.defra.gov.uk). Based on the map search results: Is the application located within an Impact Risk Zone for a SSSI **AND** For a proposal which falls into a category specified for that Impact Risk Zone?	**YES ☐**	**NO ☐**
Q4	Is the development on or within 100m of a Local Wildlife Site, Potential Wildlife Site or Local Nature Reserve?	**YES ☐**	**NO ☐**
Q5	Are there any of the following: • Semi-natural habitats (*e.g.* woodland, grassland, pond, reedbed, orchard) • Previously developed (brownfield) land • Watercourse (*e.g.* stream, lake, ditch) on, adjacent to or near the development site?	**YES ☐**	**NO ☐**
If you have answered YES to ANY of the questions above Further information is required to support your application to show how the proposal has accounted for the potential impacts **Answer 'YES' in response to 1APP Question 13b**			**Please go to section 1B**
If you have answered NO to ALL Questions 1-5 above **Answer 'NO' in response to 1APP Question 13b**			**Please go to section 2A**

Section 1B

If the answer is 'YES' to any of the questions in section 1A, the application documents must include a Biodiversity Statement which demonstrates the following:

- Extent and location of habitats and features that could be affected
- Likely impacts to designated sites/priority habitat
- How alternative designs and locations have been considered
- How adverse impacts will be avoided
- How any unavoidable impacts will be mitigated[23] or reduced
- How impacts that cannot be avoided or mitigated will be compensated[24]
- Proposals for biodiversity enhancements

Any protected species statements required as indicated by section 2 below should be integrated within the Biodiversity Statement. These reports may form part of a wider Environmental Impact Assessment.

Reports might not be required where applicants are able to provide pre-application correspondence from Natural England which confirms that they are satisfied that the proposal will not have an adverse impact on the **SPA** or **any SSSI or NNR**.

NOW PLEASE COMPLETE SECTION 2

Section 2 Protected Species (1APP Question 13a)

Section 2A

Please answer ALL of the questions in column A below, and tick the box in column B if the answer is 'YES'.

For each question, the black dots in column C indicate those species with a 'reasonable likelihood' of being present, and for which further surveys may be required.

In the shaded row please tick the appropriate boxes to summarise all species surveys which may be required.

If **ANY** of the boxes in column B have been ticked in response to any of the questions **tick 'YES' in response to 1APP Question 13a**, and go to **section 2B**.

If **NONE** of the boxes in column B have been ticked in response to any of the questions **tick 'NO' in response to 1APP Question 13a**, and go to **section 3**.

Please note that the above list does not include all protected species and all circumstances where species may be affected. In all circumstances legislation pertaining to protected species still applies and it is the responsibility of the developer to ensure that protected species and habitats are not impacted as a result of development. If protected species are found during the course of development, work should be halted and advice sought.

23 Mitigation = measures which minimise the duration, intensity and/or extent of impacts which cannot be avoided entirely

24 Compensation = measures which counterbalance the impacts, amending damage or loss

		Species protected by law and for which further surveys may be required								
DEVELOPMENT PROPOSALS THAT WILL TRIGGER A POSSIBLE PROTECTED SPECIES SURVEY	**Tick if YES ☑**	**Bats**	**Barn owl**	**Dormouse**	**Breeding birds[25]**	**Amphibians**	**Water vole**	**Badger**	**Otter**	**Reptiles**
Will the proposed works affect[26] existing buildings/ structures with ANY of the following features? • Clay-tiled pitched roofs • Loft spaces (including bell towers etc) • Hanging tiles • Wooden cladding • Open soffits • Underground structures such as (but not exclusively) cellars, air raid shelters, ice-houses, tunnels • Bridge structures, aqueducts or viaducts especially over water or wet ground • Dense climbing plants • Bird boxes (especially owl boxes) or bat boxes which have previously been fitted • Large agricultural buildings, particularly but not exclusively those of a traditional construction • Other buildings in a derelict or decayed state in a rural location	☐	•	•		•					
Are there streams, rivers, lakes or other watercourses/ aquatic habitat on or within 200m of the proposals?	☐	•			•		•		•	
Will the proposals affect[26] any areas of mature deciduous woodland, field hedgerows over 1m tall and over 0.5m thick, or scrub well connected to woodland or hedgerows on or adjacent to the site?	☐	•		•	•			•		
Will the proposals affect[26] any of the following • Old and veteran trees • Trees with obvious holes, cracks, cavities or heavy vegetation • Trees with a girth over 1m at chest height	☐	•	•		•					
Is the proposal a major application within 500m or any other application within 200m of a pond?	☐					•				
Will the proposal affect[26] mature/overgrown gardens over 0.25ha, any rough grassland or derelict/brownfield land, railway land, allotments, on or adjacent to the site?	☐				•	•				•
Will the proposal affect species-rich meadows or grassland on or directly adjacent to the site?	☐				•					
Please tick boxes to indicate all protected species that may be affected by the development		☐	☐	☐	☐	☐	☐	☐	☐	☐

25 In Northamptonshire most likely kingfisher, little ringed plover, peregrine, hobby, red kite, quail and Cetti's warbler

26 Direct impacts such as removal or modification, or indirect through disturbance such as runoff, noise, dust, lighting or increased recreational use

Section 2B Assessments ONLY for those species potentially impacted by the development as identified in section 2A

For any species identified in section 2A as potentially impacted by the proposed development:

1. Contact the Northamptonshire Biodiversity Records Centre (www.northantsbrc.org.uk) for existing species records for the area
2. Conduct preliminary survey[27] to establish potential for habitat to support the species
3. Using the results of the preliminary survey, determine whether A or B below applies.

Please tick the relevant box below (☑) and attach corresponding assessment to application

A	**IF THE PRELIMINARY SURVEY INDICATES MODERATE/HIGH LIKELIHOOD OF PROTECTED SPECIES BEING PRESENT, A FULL SURVEY AND MITIGATION STATEMENT ARE REQUIRED**	☐

PLEASE INCLUDE:

- Extent and location of species populations (including supporting habitats and features) that could be affected (more detailed surveys will be required)
- Likely impacts on species populations
- How alternative designs and location have been considered
- How adverse impacts will be avoided wherever possible
- How unavoidable impacts will be mitigated or reduced
- How impacts that cannot be avoided or mitigated with be compensated
- Proposals for biodiversity enhancements

Please note: a protected species licence may be required in order to carry out these works. Please refer to Natural England guidance.

B	**IF THE PRELIMINARY SURVEY INDICATES LITTLE OR NO LIKELIHOOD OF PROTECTED SPECIES BEING PRESENT, OR THERE ARE NO LIKELY IMPACTS TO SPECIES, FULL SURVEY IS NOT REQUIRED**	☐

Please provide the information required to demonstrate that there will be little or no likelihood of protected species being present, or there are no likely impacts on species. This can be in the form of a brief statement or letter from a suitably qualified person.

To improve the quality of the data held by the Northamptonshire Biodiversity Records Centre, applicants are encouraged to submit to the Centre data generated by protected species surveys.

If a biodiversity statement is to be submitted with the application as required by section 1B, then please include any species surveys as well.

NOW PLEASE COMPLETE SECTION 3

27 Surveys should:

- Be of appropriate scope and detail
- Be conducted at an appropriate time of year, in suitable weather conditions and using recognised methodologies
- Be undertaken by an appropriately qualified and experienced person
- Include copies of any correspondence with nature conservation organisations (such as Natural England, Environment Agency)

Section 3 Validation checklist

Please mark with an X in the shaded column ALL biodiversity information included with this application resulting from the prompting of the biodiversity checklist.

Please note that if all required information is not included with the application then it will NOT be validated.

*** required for all applications**

	Tick if included	Office use only	
		Required	Attached
Biodiversity Checklist SECTION 1A* (designated sites and priority habitats)		X	
Section 1B Biodiversity Statement			
Biodiversity Checklist SECTION 2A* (protected species)		X	
Secton 2B Protected Species Survey(s)/statement(s)			
Bats			
Barn owl			
Dormouse			
Breeding birds			
Amphibians			
Water vole			
Badger			
Otter			
Reptiles			
Correspondence from nature conservation organisation/local authority/other (as indicated by the checklist)			

Thank you for completing this checklist. Please return to the local authority all completed sections, along with the application and all supplementary information indicated above.

Appendix 2 Ecological survey calendar

	Licence required?	J	F	M	A	M	J	J	A	S	O	N	D
Badgers	Y												
Bats (hibernation roosts)	Y												
Bats (summer roosts)	Y												
Bats (foraging/commuting)	Y												
Birds (breeding)	N												
Birds (overwintering)	N												
Dormice (nut searches)	N												
Dormice (nest searches)	Y												
Dormice (cage traps/hair tube surveys	Y												
Fish	some	Optimal survey season varies with species											
Great crested newts (terrestrial surveys	Y												
Great crested newts (aquatic surveys: ponds etc)	Y												
Invertebrates	N												
Otters	Y												
Reptiles: common lizard	Y												
Reptiles: other	N												
Water voles	Y												
Habitats: Phase I surveys	N												
Vegetation: mosses, lichens	N												
Vegetation: higher plants	N												

Optimal survey season | Sub-optimal survey season | Do not survey during this time