

A developers guide to biodiversity

How to incorporate biodiversity into your development



This guide provides advice on how to incorporate biodiversity and wildlife conservation into planning application proposals. A local planning authority will consider any benefits in its overall assessment of the merits of each planning proposal.

Local Authorities must have regard to conserving biodiversity as set out in Section 40 of the NERC Act 2006. All relevant legislation and guidance is listed at the back of this guide.



Sustainable Urban Drainage System (SUDS) – Hoebrook Close, Woking © Woking Borough Council

What is biodiversity?

Biodiversity (biological diversity) is the variety of life on earth, from the smallest microbe to the largest tree, and how all the species interact with each other.

Why considering biodiversity is good for your development

- Reduces delays in the planning process
- Gives positive public relations through media coverage
- Improves ratings under the Business in the Environment (BiE) and FTSE4Good indexes
- Raises your EcoHome and BRE's Environmental Assessment Method (BREEAM) ratings

- Increases your company's Corporate Social Responsibility rating
- Helps toward industry GreenLeaf awards
- Exceeds industry Environmental Performance Indicators (EPI)

Steps to take to incorporate biodiversity into developments.

Pre-application discussions

Pre-application discussions with the planning authority to highlight biodiversity issues at an early stage can save time in the long run. It also clarifies whether an Environmental Impact Assessment will be required.

If you are unsure about the nature conservation status of a site, the local planning authority will be able to help you.

Development checklist pre-application

- does the proposal affect designated sites for nature conservation?
- does the proposal affect protected species?
- does the proposal fall within the Thames Basin Heaths Delivery Plan area?



Red admiral butterfly



- does the proposal affect Biodiversity Action Plan habitats and species?
- what levels of existing information are available?
- is the information sufficient to judge the impacts of the proposal?
- are new surveys required?
- what surveys should be included and when should these be carried out?
- who needs to be consulted?
- can the proposal be amended to avoid harming nature conservation resources?
- what can be done to reduce damage to nature conservation resources?
- what compensation measures can be implemented?
- what new benefits will the development bring?
- how will the new measures implement Biodiversity Action Plan targets?
- how will the new benefits be managed in the future, who will do this and how will it be funded?
- how will the success, or otherwise, of the proposals, together with associated measures, be monitored and how will this be reported?

Survey

Information is vital. Apart from very small developments a data search from the Surrey Biological Records Centre will provide information to guide further surveys. The level of information required to assess the likely impact of a development will be linked to the size and type of proposal. It is essential to have up to date survey information, particularly for protected species and important habitats, before permission can be considered.

Surveys should be carried out at the correct time of year to give meaningful results. Some species require several visits, and surveys for some protected species require a licence. The information should provide details of the existing value of the site but also identify the impacts of the proposed development, so that appropriate avoidance or mitigation can be included.

Protection of existing features of value, such as trees, ponds and hedgerows, and timing of works to avoid disturbance to wildlife, can be incorporated into development proposals.

Natural England should be consulted over proposals that could affect statutory sites.



An example of bad practice. Materials are too close to the tree, restricting and damaging the roots.
© Jason Hasaka / Guildford Borough Council



A good example of good protective fencing around a tree. The fence needs to be maintained during the life of the development to prevent damage.
© Jason Hasaka / Guildford Borough Council

The following table gives an indication of the best times of year for different surveys. It is not definitive as seasonal variations and methodology play a part. Seek expert advice on the best time of year to carry out surveys. Some consultants carry out a full range of surveys.

Protect

- Protect existing habitats and species by avoiding impact on designated sites such as Sites of Special Scientific Interest (SSSIs), Special Protection Areas (SPAs) and Special Areas of Conservation (SACs).

Survey	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Scoping Walkover	●	●	●	●	●	●	●	●	●	●	●	●
Phase 1 Habitat Survey*				●	●	●	●	●	●			
Botanical			●	●	●	●	●	●	●			
Large Fungi									●	●	●	
Mosses and Lichens	●	●	●	●					●	●	●	●
Nesting birds			●	●	●	●	●	●				
Wintering birds	●	●									●	●
Terrestrial Invertebrates			●	●	●	●	●	●	●			
Butterflies and moths					●	●	●					
Dragonflies					●	●	●	●				
Aquatic invertebrates			●	●	●	●			●	●	●	
Reptiles			●	●	●	●			●	●		
Amphibians			●	●	●	●			●	●		
Badgers		●	●	●								
Bats	●	●	●	●	●	●	●	●	●	●	●	●

* A standardised system for surveying, classifying and mapping wildlife habitats, including urban areas.

The presence of native crayfish, water voles, otters, dormice and great crested newts, (where they may be present) should be surveyed for, as they are all protected by legislation.

Consideration should be given to any habitats and species listed in Section 74 of the Countryside and Rights of Way Act 2000, which can be found at

<http://www.defra.gov.uk/wildlife-countryside/cl/habitats/index.htm>

This could be achieved by creating buffer zones around the designated sites. Natural England should be consulted when there is a possibility of an impact on the sites listed above.

- In Surrey, sites of county or regional importance are designated Sites of Nature Conservation Importance (SNCI) by District and Borough Councils. The Surrey Wildlife Trust should be consulted about possible impacts on SNCIs.
- Existing habitats and features of nature conservation value such as ponds, mature trees and hedges should be incorporated into the site layout.

- Timetable vegetation clearance and construction at the appropriate time of year to avoid disturbance of seasonal wildlife activities, such as nesting birds, over-wintering reptiles and movements of amphibians to and from ponds. Any disturbance may be in contravention of UK or European legislation.
- Maximise the use of locally occurring or on-site resources, especially soils.
- Minimise damage to wildlife habitats during the construction process and the movement of works vehicles. Provide protection to established trees, tree roots and plants during the work, or if possible relocate those that are at risk. If tree roots are damaged, particularly mature trees, consider tree surgery. See British Standard BS 5837 – trees and development.
- Consent is required from the Environment Agency for any building works within eight metres of a watercourse.

Mitigate and enhance

- Mitigation is appropriate if the impact on biodiversity cannot be avoided but all developments should aim to provide enhancements for biodiversity.
- Take every opportunity to enhance or add wildlife friendly features and habitats as part of any new development, ensuring that they are viable in terms of their size, and that they can be maintained. Most habitat creation schemes don't need to be expensive or complex to improve biodiversity.
- Incorporate existing habitats such as scrub, woodland, grassland or ponds into green spaces, as some will have developed over many years and cannot be replaced or recreated.

- Provide corridors of linked planting, such as hedgerows, and areas of appropriately managed rough grassland to allow cross – pollination, provide connecting routes for wildlife, and to link existing open spaces.
- Use native species from local sources, and appropriate to local conditions in any plantings done as part of the development. These support more species and are often cheaper to establish and maintain. The website www.floralocale.org lists native plant suppliers. Avoid introducing non-native species.
- Where possible, it is best to let nature take its own course, allowing animals and plants to colonise naturally, ensuring the landscaping fits in appropriately with the natural environment and requires minimal maintenance.
- Use local soil and avoid topsoil, especially in areas of ecological interest. Do not import any peat-based soil, as peat bogs are a diminishing resource which supports rare species. There are many suitable alternatives.
- Grass mixtures do not need to be standard rye grass (*Lolium perenne*) – use native grass and wildflower mix. This will allow wildflowers to establish as the grasses grow



Schwegler 'swift bricks' installed under north and west facing eaves of this development in New Barnet, London © Edward Mayer / London's Swifts

more slowly and helps to save money as it needs cutting less often.

- Use nesting boxes in developments to increase biodiversity, especially where space is limited. Boxes can be erected to attract swifts, swallows, house martins, wagtails, owls, and bats. On larger sites loggeries can be built to encourage invertebrates, and if they occur in the area, provide basking areas for reptiles.



Toad Tunnel at The Drift, East Horsley. Fencing helps direct toads to the tunnel entrance © Surrey County Council

- Underpasses, or other appropriate mechanisms, should be installed to allow amphibians, badgers or other animals to cross the road safely, if they are known to occur in large numbers in the area.



Swale to collect rainwater runoff from a new car park in Leatherhead ©Rod Shaw, Mole Valley District Council

- Use Sustainable Urban Drainage Systems (SUDS) to collect and clean rainwater runoff using ditches, ponds and reedbed filtration systems before the water soaks into the ground or enters natural watercourses. The ditches and ponds also provide valuable wildlife habitats.



What can be achieved: Living roof on the Barclays Tower, London – designed specifically for biodiversity. © livingroofs.org



Living roof on the Komodo Dragon House, London Zoo – designed specifically for biodiversity. © livingroofs.org

- Ensure drainage or overflows do not empty into sensitive habitats such as wetlands. Make sure functioning oil traps are incorporated into the design in case storm water overflows, and ensure they are maintained.
- Living roofs (roofs covered in soil, plants or aggregates) can provide new habitats as

well as insulation. These can vary from substantial soil depths that can support a meadow-type environment to non-native low maintenance sedum species that can provide a rich food source for insects. Living roofs can also provide the equivalent of a brownfield habitat, suitable for birds such as black redstarts.

- Green walls, using climbing plants such as ivy, wild clematis and honeysuckle can be used as a nesting habitat for birds, invertebrates, and also a food source. As with living roofs, they also provide insulation in the winter and shade in the summer.

Compensate

Compensate where damage is unavoidable.

Compensation can include:

- the developer entering into a planning agreement to re-create or enhance habitats on or off site
- the developer making a financial contribution towards the management of nearby sites, especially where the development will lead to increased pressure on these sites. The increased pressure will include noise and disturbance caused by new residents using the sites for amenity use.

Monitoring and management

- If appropriate, especially for large developments, provision should be made for management of the green spaces and wildlife features preserved or created, at least for the first five years. This is to prevent the degradation and loss of wildlife interest and habitats. A management plan should be drawn up, and a Section 106 agreement made, with capital used for the developer or other organisation to manage the site.



Chalk grassland site, managed for biodiversity by a local conservation group as part of a housing development. © London Borough of Sutton

- A planning condition can be used, if required for larger developments, for the developer, or other organisation funded by the developer, to monitor the condition of the site for three to five years post works, particularly new or enhanced habitats. This is to find out about any effects on wildlife during and after the works, and to amend the management if necessary.
- Seek to minimise the amount of herbicides used. Consider the impact of any potential herbicide use on adjacent habitats, for example watercourses. Environment Agency consent is required for the use of any chemicals adjacent to watercourses and standing water bodies. If herbicide use is unavoidable then use biodegradable systematic herbicides, ideally in the spot treat method.
- Traditional management techniques can create semi-natural habitats, such as coppicing in woodland, haymaking in meadows, reed cutting and pollarding in wetlands.
- Publicise to other companies and organisations the work carried out to improve biodiversity, and share best practice.



Robin © Rod Shaw



Blue-tailed damselfly © Rod Shaw

Legislation and guidance

- Wildlife and Countryside Act 1981
- Countryside and Rights of Way Act 2000
- Natural Environment and Rural Communities Act 2006
- Conservation (Natural Habitats) Regulations 1994
- Wild Birds Directive (1979)
- Protection of Badgers Act 1992
- Town and Country Planning (Trees) Regulations 1999
- Hedgerows Regulations 1997
- The Planning and Compensation Act 1991
- Tree Preservation Orders (TPOs) and Conservation Areas (under Town and Country Planning Act)
- Planning Policy Statement PPS 9 – Biological and Geological Conservation (2005)
- British Standard BS 5837 – trees and development
- BRE's Environmental Assessment Method (BREEAM) / EcoHomes
- UK Biodiversity Action Plan (comprised of Habitat Action Plans and Species Action Plans)
- Surrey Biodiversity Action Plan (comprised of Habitat Action Plans and Species Action Plans)

Site Designations

- Special Protection Area (SPA – a European designated site)
- Special Area of Conservation (SAC – a European designated site)
- National Nature Reserve (NNR)
- Sites of Special Scientific Interest (SSSI)
- Local Nature Reserve (LNR)
- Site of Nature Conservation Importance (SNCI)
- Regionally Important Geological or Geomorphological Site (RIGS)

Useful organisations and contacts

- Association for Environmentally Conscious Building www.aecb.net
- Badger Trust www.badger.org.uk
- Bat Conservation Trust www.bats.org.uk
- Botanical Society of the British Isles www.bsbi.org.uk
- BREEAM www.breeam.org
- British Standards www.bsi-global.com
- British Trust for Ornithology (BTO) www.bto.org
- BTCV (British Trust for Conservation Volunteers) www.btcv.org
- Buglife www.buglife.org.uk
- Butterfly Conservation www.butterfly-conservation.org
- Business in the Environment www.bitc.org.uk
- Ecohomes www.breeam.org/ecohomes
- Environment Agency www.environment-agency.gov.uk
- Flora Locale www.floralocale.org
- Froglife www.froglife.org
- FTSE4Good www.ftse.com/Indices/FTSE4Good_Index_Series/index.jsp
- Herpetological Conservation Trust (HCT) www.herpconstrust.org.uk
- Institute of Ecology and Environmental Management www.ieem.org.uk/members/commercial.php (list of Fellows, Full Members and Associates who offer commercial services).
- Living roofs.org www.livingroofs.org
- London's swifts www.londons-swifts.org.uk
- Mammals Trust UK www.mtuk.org
- Natural England www.naturalengland.org.uk
- Plantlife www.plantlife.org.uk
- Royal Society for the Protection of Birds (RSPB) www.rspb.org.uk
- Surrey Amphibian and Reptile Group www.surrey-org.org.uk

- Surrey Biodiversity Partnership www.surreybiodiversitypartnership.org
- Surrey Biological Records Centre www.surreywildlifetrust.co.uk
- Surrey Urban Biodiversity Project www.surreycc.gov.uk/urbanbiodiversity
- Surrey Wildlife Trust www.surreywildlifetrust.co.uk
- The Mammal Society www.abdn.ac.uk/mammal
- The Woodland Trust www.woodland-trust.org.uk

Useful publications

- Urban Environments and Wildlife Laws (Rees 2002)
- Developing Naturally (Oxford 2000)
- Working with wildlife site guide (Newton, Thackray, Nicholson, 2005)
- Wildlife and Development (English Nature 2006)

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