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Integrating biodiversity

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The Environmental Mantra

Whereas some years ago, environmental issues were a bit of a 'bolt-on' to a construction project, they now have to be integral to project design - from conception to completion. Never has this been more apposite, when climate change has driven legislation, policy and shareholder expectation in such a way as to fundamentally transform the approach taken to projects.

Minimum renewable energy use, waste minimisation and sustainable transport requirements have to be built into all but the smallest projects, and elevated scorings under Buildings Research Establishment (BREEAM and Code for Sustainable Homes) or CEEQUAL evaluation are becoming the norm.

The safeguard of protected animals (and in the case of development, to a lesser extent plants) is another environmental issue that requires consideration. Fuelled by European legislation¹, there is stringent protection of certain species to the extent that the places which they occupy are equally protected, even when the animals themselves may not be present. In addition, where such animals may be affected, there is a consenting process, separate from land use planning, which needs to be satisfied before a development may proceed.

Incorporating ecological matters at the earliest stages of project planning is vital. Unlike any other issue that has to be considered in a development proposal, assessing the degree to which protected animals may be affected is usually dependent upon the time of year (see www.ecologynetwork.co.uk/survey_timing.htm). Seasonal constraints mean that missing a survey opportunity could delay the advancement of a project for up to a year. In some cases, survey may be required over a period of several years, so it pays to gain an understanding of potential ecological constraints from the outset, particularly since many local planning authorities now require ecological information 'up front' as a pre-requisite to validating an application.

Wing of Bat, Eye of Toad

Whether a protected animal is associated with a development, and the type of animal it may be, will depend upon location within the UK, type of habitat and pre-existing infrastructure. In addition to reptiles (covered elsewhere in this issue), there are three very different animals which by virtue

of being covered by European legislation need particular attention when it comes to development:

Seventeen different types of bats are found in the UK, and while they have different requirements, all have a few features in

common. Bats breed in the summer, and hibernate in the winter, more often than not in different places. As well as occupying trees (especially those with dense ivy cover), they may be tucked away within man made structures, including bridges, tunnels and →



(especially) buildings. There is a perception that bats occupy only old buildings, and while this is often the case, the UK's smallest bat (the pipistrelle) is frequently found associated with more modern structures. The siting of the building is an important attribute: A south-facing roof, coupled with surrounding trees and shrubs, and perhaps a near-by watercourse, together form an ideal habitat for these animals during the summer months. Trees can be used for breeding (summer) and hibernation (winter). Bats tend to favour older and partially decayed trees, which may often present a challenge where a local authority arboriculturalist permits the removal of such trees since they have ceased to provide any 'amenity' benefit! Great crested newts (GCN) breed in still water - anything from rural farm ponds to disused urban industrial lagoons - and feed on adjacent land. Like bats, they undergo a seasonal migration, and in the winter seek shelter in dry areas such as woodland, which may be over 500m from their breeding pond.

Since there tends to be more suitable hibernation habitat (land) than breeding / feeding habitat (water), ponds are the limiting factor for GCN conservation. The ideal breeding pond for GCNs is less than 2m maximum depth, with an irregular margin and an abundance of water plants

(while not being shaded by trees). Both the above animals are equally at home in urban as rural areas. The dormouse, however, is more of a country dweller, favouring evergreen woodlands and traditional hedgerows. Increasingly this elusive animal is being reported from other types of habitat - last year evidence of dormouse was found in a patch of bramble next to a coal fired power station! However, it remains unlikely that dormice will be found in heavily urbanised areas with no connectivity to extensive areas of vegetation. Dormice live and feed amongst the branches of trees, rarely descending to the ground other than to hibernate. Unlike bats and GCNs, they tend to stay in the vicinity of their nests.

A Space for Wildlife

Many other types animals are coincident with areas proposed for development, often protected, albeit by UK2 as opposed to EU-derived legislation. This article focuses on land-based ecology. The new legislation for marine areas³ will see increased scrutiny of development in off-shore environments (such as renewable energy installations) to ensure that they do not adversely affect the animals occupying those areas. Despite the requirements of wildlife law and policy, consideration of ecology early in the project life-cycle will often facilitate creative

solutions to protected species issues. Being one step ahead enables the implementation of mitigation that results more from integration with design than from consumption of project capital. This in turn leads to swifter securing of consents and more effective project implementation. The Institute of Ecology and Environmental Management is the body that represents and supports professional ecologists and environmental managers. It aims to maintain a strong level of competency amongst its membership, ensuring that they have the tools at their disposal to effectively address issues such as those presented above.

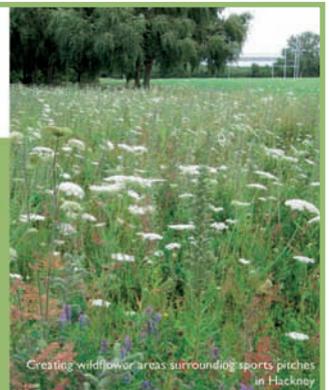
For more information on the Institute of Ecology and Environmental Management, visit www.ieem.net or contact Jason Reeves on 01962 868626

For more information on Ecology Network Ltd and their range of services, visit www.ecologynetwork.co.uk or call 0207 483 2681 or 07775 446260

1. Council Directive 92/43/EEC, 1992 on the conservation of natural habitats and of wild fauna and flora (as amended)
2. The Wildlife and Countryside Act, 1981 (as amended)
3. The Marine and Coastal Access Act, 2009

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At site level, we work with developers and landowners to help deliver sustainable developments. With expertise in a range of habitats and species (such as bats, great crested newts, badgers and reptiles), we identify potential issues through detailed ecological survey.

We then help develop pragmatic, cost-effective mitigation and enhancement proposals to facilitate your development. This often includes incorporating wildlife-friendly measures which also meet broader planning requirements, such as climate change and open space objectives. Measures may include the sensitive design of landscaping, incorporation of specific features for target species such as roosting opportunities for bats, and helping design living roofs, green walls and sustainable drainage systems.



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