



The Ecology Consultancy

Briefing

Issue 9

Photo: HUF HAUS show-home

HUF HAUS

Leaders in sustainable housing

The Ecology Consultancy has worked with the pioneering and forward-thinking German bespoke housing engineers HUF HAUS on a range of housing projects in England. HUF HAUS are innovators and not only in terms of sustainability. Through partnership with our experts, they are also able to deliver a robust ecological approach.

Peter Huf, Managing Director, says, "Instructing an Ecologist at an early stage is extremely important to ascertain any issues which may arise. Having worked with The Ecology Consultancy on a variety of projects we have benefitted from their expertise to ensure the smooth running of the project from beginning to end. I highly recommend them".

Continued over...

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- ◆ Expert ecology bat surveys



Chalkhill Blue on Self-heal Photo: Giles Coe

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Leaders in sustainable housing continued...

HUF HAUS housing aims for low impacts on the surrounding environment, seeking to maintain or enhance surrounding habitats. At a private house in Hertfordshire, our specialist ecologists provided mitigation for bats that would potentially be disturbed by the proposed works by creating a new bat-roost in the garden of the proposed building with the HUF HAUS design team.

For the site of a proposed new HUF HAUS show-home in Surrey, we carried out a scoping survey, assessed the potential of trees present to support roosting bats, and set out the ecological constraints. Discussing the development proposals on-site, gave us a clear understanding of the low-impact nature of the construction and operation of the proposal. This, together with the identified constraints, enabled us to formulate a proportionate and practical approach for mitigation, in which we assumed a 'worst case scenario' for the most sensitive species likely to be present. The jointly agreed mitigation measures covered habitat retention, habitat protection, clearance methods if required, maintaining habitat connectivity, minimal lighting, wildlife-friendly construction methods and enhancement. Stakeholders, including Natural England, endorsed our proposals based on the comprehensive and proactive mitigation design.

Low carbon technology coupled with responsible sourcing of "cradle to grave" manufactured products, places HUF HAUS at the forefront of sustainable housing. This includes achieving the lowest possible energy consumption and environmental impact during the construction process. The company is now also exploring the viability of incorporating even greater environmental benefits, such as biodiverse green roofs, into their new specifications.

The HUF HAUS Green Revolution is a concept introduced two years ago and now achieves groundbreaking low levels of energy consumption. The reductions are the result of revolutionary design and engineering innovations. The company's commitment to minimising waste, avoiding fossil fuels, integration of photovoltaics and heating systems and high-spec insulation, are matched by ergonomic building design and engineering, which continue to improve the energy efficiency of the new generation of HUF HAUS homes. New standards have been set in post-and-beam construction, demonstrating that building with wood, an age-old tradition, can intelligently be adapted to meet today's needs.



Expert ecologists to deliver BREEAM New Construction

BREEAM New Construction replaced BREEAM 2008 in July 2011 and forms the new building environmental assessment tool for non-residential buildings. In addition to assessing common building types, such as offices, the scope of BREEAM New Construction has been expanded to include a number of other types of development, previously assessed under specific or bespoke methodology. The implications are only just being understood but the new guidance should result in a wider range of buildings which can fulfil exacting environmental criteria, including enhanced green features.

The following building types are now included under BREEAM New Construction:

- ◆ Residential institutions such as hotels, hostels, training centres
- ◆ Non-residential buildings such as community centres, museums, libraries, NHS buildings and Courts
- ◆ Assembly and leisure buildings such as cinemas, information centres, sport centres
- ◆ Transport hubs such as train/bus stations

One of the areas where the new assessment recognises the importance of biodiversity design in the built environment is green roofs, with the guidance now stating: *"The contribution of plant species on green roofs can only be incorporated within the calculation of LE 03 where the SQE has advised on suitable plant species for the roof"*.

Our sister company, the Green Roof Consultancy, has expertise in creating species-rich biodiverse roofs. These include other important design elements such as substrate type/depth, planting density and additional habitat features such as temporary standing water, deadwood habitat and rocks/boulders.

The correct design and installation of biodiverse green roofs not only maximises the available credits under BREEAM New Construction, but delivers other benefits such as higher property market value/rates, improved aesthetic/visual interest of non-domestic properties, storm water attenuation, building energy performance etc.. We can provide client focused advice on green roofs, including detailed specifications as part of BREEAM or CfSH, through the Green Roof Consultancy.

BREEAM Award winners

BREEAM assessments totalled 7,000 in 2010, a 50% increase on the previous year, as interest in sustainable buildings grows. This year's Ecobuild announced 16 winners including Ashmount Primary School, part of the £13M Crouch Hill Park development, for which The Ecology Consultancy provided the Phase I habitat survey and BREEAM 1 Education (2008) Ecology Assessment.

Green roofs and green infrastructure

At a landscape scale - London

The Ecology Consultancy and the Green Roof Consultancy have undertaken an audit of Green Infrastructure on behalf of Business Improvement Districts (BID) in Hammersmith, London Bridge and Bankside and will provide recommendations for enhancing urban greenspace. This is part of a London-wide initiative covering ten BIDs taking part in the Greater London Authority (GLA) 'Drain London' project.

Green roofs typically provide what the UK National Ecosystem Assessment and Millennium Ecosystem Assessment term as 'regulating services'. Services covering noise, air, water and climate control are of particular importance in the urban environment. The design of our built environment has led to a concentration of 'sealed surfaces' and this, coupled with the effects of climate change on rainfall, is likely to increase peak rainfall rates by 40%. As a result our cities are now faced with more regular flooding.

This exciting project is being led by our Senior Ecologist Ben Kimpton, who will consider the elements that form the network of natural and semi-natural spaces in these districts. The long-term aim of the project is to increase the quality

and quantity of green space and enable climate change adaptation, by increasing vegetated cover in the Central Activity Zone by 5% by 2030, in line with the London Plan. We will examine the contribution of trees to the urban landscape and their vital role in reducing the effects of storm water flooding, providing wildlife habitat and green corridors, minimising the urban heat island phenomena and improving the environment for residents, business and visitors. We will also make recommendations on how to create new habitats such as green walls, green roofs and rain gardens.

The Ecology Consultancy is able to offer state of the art GIS services for such projects. A digital map created by the

company Bluesky International Ltd, called ProximiTREE, marked the location of private realm trees identified from aerial photographs, and includes measurements of tree height and canopy extent. The maps complimented data already held by project partners London Borough of Southwark and the Greater London Authority. These, and our own data collected during field surveys were processed using our in-house Geographical Information System (GIS) programme – ESRI's ArcView.

Rotherhithe green roof Photo: Ben Kimpton

The Ecology Consultancy and sustainable housing

BREEAM New Construction and Code for Sustainable Homes both specify that you must use a suitably qualified ecologist to design your green roof.

We also carry out Green Infrastructure Audits, Phase 1 and habitat surveys and management plans.

If you would like to learn more about these services give us a ring on 020 7378 1914 or email enquiries@ecologyconsultancy.co.uk



New guidance on land availability for housing

New civil sanctions

Natural England is now empowered to make use of civil sanctions in respect of breaches of licence conditions for protected species, intentional or accidental. These new powers came into effect on the 3rd January this year, before which they could issue only 'warnings', 'cautions' or 'prosecutions'. The new powers put Natural England in the same frame as the Environment Agency as an enforcement body.

The Department for Communities and Local Government, the Local Government Association, the House Builders Federation, the Planning Officers Society and the Planning Inspectorate have issued new guidance to support local planning authorities and house builders.

Strategic Housing Land Availability Assessments are a key component of the evidence base to support the delivery of sufficient land for housing to meet the community's need. Strategic Housing Land Availability Assessments will replace, and go further than, the previous 'Tapping the Potential - Assessing Urban Housing capacity' from the DETR in 2000.

The primary role of the guidance is to:

- ◆ identify sites with potential for housing
- ◆ assess the housing potential of sites such as brownfield and greenfield
- ◆ assess when they might be developed
- ◆ assess any obstacles to development on those sites

The guidance aims to identify the choices available to meet housing demand over the next 10 - 15 years and will recommend whether action should be taken to ensure sites will become deliverable. What is new is a requirement to investigate new areas, such as sites in rural areas, brownfield sites outside settlement boundaries and suitable greenfield sites. In other words, sites that are not currently in the planning process, including rural exception sites.

The proposal makes no mention of sites of wildlife interest or of conservation value, which is an ongoing concern for a broad coalition of environmental groups, which resulted from the shift in emphasis within the new National Planning Policy Framework, published in March.

New dormouse survey advice

An interim advice note has been issued by Natural England to provide clarity with regard to their requirements for effective dormouse surveys to accompany mitigation licence applications. The note seeks to rectify the issue of differing interpretations of current guidance, which has resulted in inadequate surveys and disproportionate survey effort being applied.

Dormouse surveys to support a mitigation licence application should employ sufficient survey effort to determine presence/likely absence of the species on site. Information on 'where' and 'when' to survey follow the guidelines in the Dormouse Conservation Handbook. Dormouse surveys to inform mitigation license applications should not be limited to perceived 'optimal' habitat. It is

important to note that where projects that significantly affect woody habitat occur within known dormouse range, surveys should be completed, even if the habitat appears fragmented. Surveys may also need to encompass suitable habitat adjacent to the site footprint, where impacts are likely to occur beyond this area.

The standard method of survey is the nest tube survey, but a number of misconceptions about the use of this technique abound. In an attempt to correct these, NE has set out recommendations on the number of times nest tubes should be checked, distance between nest tubes and number of tubes across a site. The advice can help improve the rigor of dormouse surveys but is not without its contradictions!

Full details are included on the Natural England website; WML- G37 (12/11) Interim Natural England Advice Note - Dormouse surveys for mitigation licensing – best practice and common misconceptions.

Photo: Vicky Forder



Expert ecology

Bat surveys

Greater Horseshoe Bat Photo: staff ecologist

The Ecology Consultancy is proud to have sponsored the new **Bat Surveys - Good Practice Guidelines 2012** available from the Bat Conservation Trust which sets new standards for bat ecologists to follow. There is new material on the level of experience and skill expected of an ecologist applying for a survey or mitigation licence and a whole new chapter dedicated to methods of reporting, including useful standardised survey reports to facilitate the planning process.

Survey equipment and techniques are covered in much the same way as the original 2007 guidelines, with additional guidance on detector surveys for species with low-intensity calls that are notoriously difficult to detect.

Three levels of survey are defined in the Guidelines, helpfully streamlining a number of terms that could be used previously:

- ◆ **preliminary roost assessment** (internal/external inspection survey)
- ◆ **presence/absence survey** (dusk/dawn surveys, automated and backtracking surveys)
- ◆ **roost characterisation surveys** (if roosts are found, detailed surveys to establish how bats use a roost (e.g. the location of roosting

bats, flight paths and flight behaviour, exit and entrance points to the roost); the intensity of use (e.g. number of bats, sex of bats, time and duration of use); and what features and characteristics of the roost and the surrounding area are of importance. Internal climatic assessment (temperature, humidity light etc.) may be necessary, along with activity surveys on flight lines and linear features connecting to surrounding habitat, and, in very rare instances, capture survey to determine the species, sex and/or breeding status of the roosting bats)

Inspection surveys are now referred to as a 'preliminary roost assessment'. Also included is more detail on surveying churches and timber-framed and stone barns. There are details

about white nose disease, which has arrived in parts of Europe. The scoring system for rating the value of trees has also been amended.

Survey seasons and the spread of surveys over the survey season are also updated in the new Guidance, so that two surveys carried out within 24 hours would now be considered to constitute one survey.

The optimal survey season is May-August, inclusive, with survey results being most robust when these are spread over the survey season.

Ref: Hundt L (2012) *Bat Surveys: Good Practise Guidelines*, 2nd edition. Bat Conservation Trust.

Bat hazards

A recent paper from the *Journal of Applied Ecology* (Berthinussen, A. & Altringham, J. The effect of a major road on bat activity and diversity. 2012, 49, 82-89), examined the role of major roads as barriers to bat activity.

It is well known that roads can have a significant negative impact on species and ecosystems, but following detailed acoustic surveys along a section of the M6, the researchers found that the positive effect of distance from the road was constant throughout the night and across different habitat types. This suggested

that reduced bat activity and diversity closer to the road may be due to habitat degradation owing to light, noise and chemical pollution, the barrier effect, increased mortality on the road, or all of these.

It follows that mitigation must be tailored to address the barrier effect caused by roads, perhaps by making them more 'permeable' by establishing safe crossing points, which must connect effectively with known commuting routes. The authors warn about the lack of 'adequate and focussed' monitoring of existing green

bridges (as seen across continental Europe), and suggest that a period of ten years is required to provide an insight to fully understand road developments and mitigation on bat populations.

At The Ecology Consultancy, we regularly conduct surveys associated with road work, so the implications of this study could alter our approach to designing and implementing bat mitigation under these conditions.



Climate change and bat activity

A bat was found flying at a school during a snowy January, when bats would normally be hibernating. With no food source available over winter, bats that burn energy, by coming out of hibernation, can starve and die.

Our Senior Ecologist, Sarah Yarwood Lovett, is a registered bat rescuer for the Bat Conservation Trust (BCT). She found the male bat to be perfectly healthy, but it needed to be kept in cool surroundings with food available over the winter months. Sarah hand-fed the bat with meal-worms until it became accustomed to the taste and could feed itself. The bat lived in a cold bathroom until the weather turned warm enough for his release.

When it was clear the bat was ready for freedom, having made a bid to escape, Sarah took advantage of a warm weekend to return the bat to the school for his release to the wild, watched by the fascinated students.

When bats are found grounded or injured, the first port of call is BCT Bat Helpline (0845 1300 228), who will put them in touch with their local bat rescuers and bat hospitals.

Company News

Norwich office

Norwich is assisting with a voluntary bat initiative which asks Norwich residents to help survey the area's bats, and is organised by the Norwich Bat Group, the British Trust for Ornithology and the University of East Anglia. We are providing support and advice, and lending automated bat-call recorders for bat surveys that will take place in residents' gardens

Our Norwich office is fast gaining a reputation for expert wind-farm work and has won work with the German renewable company RENERCO on two large scale wind-farm sites in the region.

Lewes office

The Ecology Consultancy was commissioned to carry out extensive ecological assessments of 13 Strategic Areas marked for housing allocation in East Sussex. Our green infrastructure (GI) appraisal has been used to inform the Strategic Sites Development Plan Document and the emerging LDF. This involved surveys of over 61 sites, covering an area of 480ha and across



Chalkhill Blue on Self-heal Photo: Giles Coe

a broad range of landscape types. An important element of the work has been GIS mapping of habitats, an appraisal of GI resources and the presentation of GI enhancements in GIS format.

Our Lewes office recently joined the Sussex Wildlife Trust as a business member and this year our expert team wanted to show additional support by sponsoring the 2012 photographic competition. We look forward to showcasing the winners! Lewes welcomed ecologist Sally-Ann Hurry to their team.

London office

Our London office took part in a green-roof masterclass with Gary Grant and Dusty Gedge from our sister company The Green Roof Consultancy (GRC) who shared some of their knowledge and experience with us.



MD John Newton presenting CPD

We welcome ecologists Leni Griffiths, Richard Gowing, Tanith Cook and Emma Reid, along with our new Major Projects Officer, Kat Evans. Gideon Simons is the newest recruit for our expanding GIS team.

Edinburgh

An extended Phase 1 habitat survey was carried out at the site of a farm in Auchterarder, Perthshire in March this year, for a project that seeks to restructure the 100 acre site by developing six lowland crofts with associated woodland planting, paths and permaculture environments.

The farm's re-structuring will comprise around 20 hectares of new managed woodland plantations, and woodland walks. Woodland will predominantly consist of native broadleaf to encourage and enhance greater biodiversity. Around eight hectares of best land will be retained in agriculture with a further 12 hectares reserved for lowland crofts, crops and paddocks.



Auchterarder dyke Photo: Phil Davey

We recommended further surveys for bats and otters and made a series of recommendations for habitat enhancement and mitigation, including the removal of defunct stock fencing to benefit ranging wildlife, retention of dykes, additional scrub and hedge provision, enhancement of woodland edges and ecological improvements to a large semi-natural pond.

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