



The Ecology Consultancy

# Briefing

Issue 6

## High-spec bat surveying

The Ecology Consultancy uses a wide range of methods to identify the presence of bats, to record the bat species present at a site and to estimate the type of roosts and the size of populations of a species. From Anabat recorders to mist nets, our bat specialists are qualified – and licensed - to undertake this specialised work, in urban and rural locations.

Activity transect surveys, where the surveyors walk around a site, or where remote detectors are strategically located along potentially important features, such as hedgerows or tree-lines, are the best method for determining the likely importance of the site for foraging

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Dan Simmons - climb and inspect

High-spec bat surveying continued...

and commuting bats as well as the range of species present. In open areas, and for surveys where closer inspection of bats is required, mist nets, measuring 6m in length and made from fine hair-net nylon, are staked across the suspected commuting route. Bat handlers must be specially licensed and trained to disentangle the delicate creatures from the netting, after which the bats are weighed and their condition assessed. This is the preferred capture technique for the electronic tagging of bats.



Ecologist Jackie Watson setting a mist net in Scotland

In wooded areas, detectors are useful for indicating whether roosts are likely to be present especially on large sites where there are too many trees to realistically individually assess. Specific trees can then be targeted for climb-and-inspect or emergence/re-entry surveys. Climb-and-inspect can be used to rule out the need for further survey or determine precautionary working practices when felling. Some of our ecologists are qualified to climb trees and carry out inspections of cavities using endoscopes. Often, trees assessed from ground level can appear to exhibit features of value to roosting bats (e.g. deep, sheltered cavities or fissures). On this basis alone, targeted emergence or re-entry surveys may be recommended.

Bats also roost in tunnels, under bridges, and in caves and fissures. Once such a roost has been identified, the harp net is an ideal instrument with which to capture bats on emergence. Designed like a harp, the two parallel rows of narrow wire form a 'wall', which the bats slide down on impact, into a soft trough or sack. This method is a good technique for measuring the size of a roost and the health of the bats, but again the bat worker must be specially licenced to employ it.

Bats are active between April and September, so their main survey season for this year is just beginning. If you think you may have bats on your site, contact our bat specialists to arrange a survey.

See: <http://www.ecologyconsultancy.com/resources/batsurveys>

## Paying for nature's services

**The concept of Ecosystem Services has been gathering interest of late and is set to become an important planning tool in the UK, one that Defra and the Coalition Government hopefully will embed in biodiversity and nature conservation policy, and in forthcoming legislation**

The Economics of Ecosystems and Biodiversity (TEEB\*), places a financial value on the services ecosystems can deliver, such as mitigating climate change, benefitting human health and by soaking up pollution. Economic tools are used to assess the value of ecosystems including market goods derived directly from nature, damage avoidance, variation in house prices and the public's willingness to pay to protect an ecosystem.

The United Nations Environment Programme hopes that TEEB will act as a catalyst to help accelerate the development of a new kind of economy, where the values of natural capital, in the form of ecosystem services, are incorporated into mainstream public and private decision-making. TEEB estimates that the degradation of our planet's ecosystems costs us £50 billion per year.

The Environment Agency already applies cost/benefit analysis to flood risk assessments and is compiling a database of financial values of habitats. Defra began cost/benefit assessments of UK ecosystems as far back as 2007: its Natural Environment Programme has developed an inventory of ecosystem services, understanding of environmental limits and a valuation of ecosystem services.

Natural England has announced pilot projects to demonstrate the way in which Ecosystem Services can be placed at the heart of land and water management in the British landscape. Working with a wide range of partners they will trial the potential for delivering ecosystem services in areas such as the South West Uplands of Dartmoor and Exmoor. Assessments will be made of the natural, social and economic capital held; current land and water-management practices will be evaluated and synergies and trade-offs will be added in.

The process that led to the publication of the Environment White Paper this month, the revised action plan for embedding an ecosystems approach, "Securing a healthy natural environment", and the first UK National Ecosystem Assessment, shows the UK Government is demonstrating some commitment to the concept.

See: <http://www.defra.gov.uk/environment/policy/natural-environ/using/index.htm>

Our Senior Ecologist Matthew Wilson, says The Ecology Consultancy has a significant part to play in the use of the ecosystem services approach at a local level: "By teaming up with environmental economists we can help companies understand their own reliance on ecosystem services, and can give advice about the concept for their own investment purposes. With our detailed understanding of development and ecology, we can also provide advice and guidance to Local Authorities seeking to embed ecosystem services into their planning strategies, and work within multi-disciplinary teams in master planning development projects".



\*TEEB (2010) *The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature: A synthesis of the approach, conclusions and recommendations of TEEB*. See: [www.teebweb.org](http://www.teebweb.org)



# The secretive dormouse

Contrary to popular belief dormice can be found in conifer woodlands and evidence of dormouse nests made completely from pine needles seems to support that view. In such habitats dormice may be under-recorded because they are found much higher in the canopy. Nest tube surveys at low levels may miss them. Dormice have even been found where the ground layer in openings is dominated by rhododendron. Ecologist Victoria Forder suggests that, due to the lack of preferential food sources in conifer woodlands, these trees may carry a high insect load.

Previous research suggested that dormice will not cross roads, paths or open spaces. However, recent studies of the A30 and A38 in Devon have shown that dormice are in fact crossing roads (at least 10m of open ground) and are breeding within the central reservations. These comprise small areas of woodland - some only 0.2 ha in size.

The Dormouse Conservation Handbook says that the optimal size of woodland to sustain a viable dormouse population is 20ha. However this is for isolated woodlands, with no connectivity to other areas of woodland or hedgerow, within a 1km radius. The new evidence suggests that when we are scoping for dormice, we should be taking into account much smaller areas of woodland, even conifer woodlands and especially those with good hedgerow connections.

Although dormice favour food plants which include hazel, bramble, honeysuckle and oak, they will also eat a variety of flowers, fruits and nuts.

Strongholds for dormice are traditionally found across the southern counties including Kent, Surrey, Hampshire, Wiltshire, Somerset, Devon and Cornwall, as well as Gloucester and Essex. They are also found in Wales. They are found in fewer numbers in some areas of Central England. Again a map of the distribution of dormice is found in the Dormouse Conservation Handbook, which shows that inside the M25 you are unlikely to find dormice populations. However, they are present on the M25 and large numbers have been recorded on the M26 and A21 (and M3 and M4 once you get further away from the M25).

Victoria has produced a new scoping guide for dormouse surveys which we shall trial during the recording season.



Ecologist Victoria Forder handles a dormouse

Image: V Forder



Rhododendron woodland

Image: Sabrina Bremner





Image: Jon Riley

Parkland walk

# London school wins top BREEAM award

A school in North London was awarded the top environmental award for sustainable design in April. The Ecology Consultancy was commissioned by Willmott Dixon to carry out a Phase 1 habitat survey and BREEAM\* Education (2008) Ecology Assessment of a new site for Ashmount Primary School in the London Borough of Islington. The School achieved an 'Outstanding' BREEAM rating for its plans for exceptional environmental enhancement of the site, the first primary school in the UK to do so.

The Ecology Consultancy surveyed the site's habitats and identified features of ecological importance. Our ecological scoping survey, as well as bat, reptile and breeding bird surveys, were used to provide the ecology section of the BREEAM Schools (2008) Assessment required for the development of the site.

The site comprises an area of approximately 1.63 hectares and includes a disused recreation centre, a youth club and a nursery as well as hard-standing, amenity grassland, trees and shrubs. The proposed development will extend into Parkland Walk, a former railway line designated Local Nature Reserve (LNR) of metropolitan importance, owing to its extensive area of secondary woodland running through urbanised parts of north London. The LNR supports an important population of bats as well as locally uncommon birds and invertebrates.

To ensure all existing features of ecological value will be fully protected from damage during site preparation and construction works, and that nature conservation legislation is not breached, safeguards will be put in place: mitigation for breeding birds, mitigation for bats; control of light spillage; correct management of Japanese knotweed and protection of retained trees and shrubs.

The Ecology Consultancy also advised on the creation of a biodiverse brown roof; climbing plants on walls and other vertical structures; wildflower plug planting in amenity grassland; ground cover planting; native hedgerows; herbaceous perennials and bulb planting; shrub planting; woodland edge planting and woodland under-planting - all to increase foraging for bats, birds and insects. This also ensured that landscape proposals provided the greatest possible diversity in order to maximise the BREEAM credits achieved. In addition we suggested that bird and bat boxes and log piles, which were a requirement for planning permission, also have great potential for class projects.

\*BREEAM (BRE Environmental Assessment Method) sets the standard for best practice in sustainable design. It enables developers and designers to prove the environmental credentials of their buildings to planners and clients. The straightforward scoring system is transparent, easy to understand and supported by evidence-based research.

## Specialists in mitigation

The Ecology Consultancy provides a comprehensive service, from the planning and feasibility stages of a proposal right through to detailed design and implementation. This service includes mitigation, translocation and habitat creation, where necessary under licence from Natural England.

**Mitigation** is designed to limit the effects of development, by enabling wild plants and animals to survive during the building phase and to live in harmony with the new development. Our mitigation services range from fencing off areas to exclude reptiles and great crested newts from construction sites to building artificial homes such as swift boxes and invertebrate log-piles. We also provide management advice, including retention of areas of infrequent mowing, to provide foraging for bats and butterflies.

**Translocation** is what we do when we cannot accommodate species on the development site. Prior to capture, we use GIS mapping and field surveys to identify suitable natural habitat nearby. We then carefully capture animals such as reptiles or newts and release them into the new site. This process can take many months to ensure that almost all individuals are saved from harm.

**Habitat creation** (or often re-creation), is used to enhance a site, providing new habitats for plant, insect and animal species. We have considerable expertise in establishing meadow areas, ponds, reed-beds and woodland. We have many examples of creating new habitats with developers and architects, often for eco-housing schemes, as well as recreation of lost habitat.

We are responsive to our clients needs and continually develop our business to maintain a high quality, cost-effective, service. Our ecologists are members of the Institute of Ecology and Environmental Management and are committed to the Institute's Code of Professional Conduct.





*John Newton & Ben Kimpton inspect the site with David Larkin from Brighton & Hove*

*Image: Matthew Thomas*

# Long-term Ecology Consultancy project becomes a new conservation area

A new conservation area has been opened in Brighton, providing a retreat for nature lovers as well as walkers and their dogs. Crowhurst Corner Conservation area was opened in March by Councillor Geoffrey Theobald OBE, Cabinet Member for Environment, Brighton & Hove Council. The Ecology Consultancy has been involved in the restoration and management of the site.

Crowhurst Corner lies on the northern edge of Brighton's urban fringe and is one of the city's Sites of Nature Conservation Importance (SNCI). The SNCI had been designated for its species-rich chalk grassland, with a population of the rare Adonis Blue butterfly and reptiles, but its nature conservation value was reducing due to lack of management.

In 2003 Linkwood Properties Ltd. submitted a planning application to build three light industrial units with parking and service areas on this area. To safeguard the wildlife interest of the site and to compensate for the loss of a small part of the SNCI, the Council required extensive habitat creation and the implementation of a long-term management plan.

Linkwood Properties Ltd. appointed The Ecology Consultancy to put together a package of compensation measures, including the creation of new chalk grassland habitat, refuges for reptiles, nest boxes and hibernation sites for bats. 30 hardy sheep will also be returning to the area, for the first time in at least 50 years, to help manage the species-rich grassland. Their welfare will be checked by local, volunteer 'Lookers'.

On 10th March, Crowhurst Corner conservation area was formally handed over to the council's Cityparks Rangers to continue its conservation management, with a payment of £10,000 from Linkwood Properties Ltd. The area will be fully accessible to the public.



*30 sheep set off to graze the site*

*Image: Ben Kimpton*

See: <http://www.ecologyconsultancy.co.uk/casestudies/3/crowhurst-corner.html>

Also: <http://www.brighton-hove.gov.uk/index.cfm?request=c1242954>

# Company News



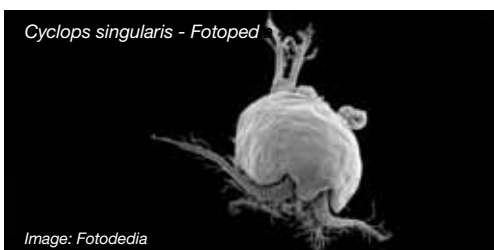
Our Norwich office



Our Edinburgh office

## Our London office expanded this year to include Senior Ecologist and bat licence-holder Dr Sarah Yarwood-Lovett.

Sarah has 6 years' experience working in the ecology consultancy sector and she brings to The Ecology Consultancy a range of survey skills and experience. Her PhD research (with the Ponds Conservation Trust and Syngenta) used multivariate analysis techniques to explore distribution factors of microcrustaceans in freshwater bodies across England and Wales, alongside environmental data. This work has applications in ecotoxicology and conservation. Sarah's research also found a new British record of mini-beast *Cyclops singularis*.



*Cyclops singularis* - Fotoped

Image: Fotopedia

**Dan Simmons** has joined our London office and comes from the eminent bat research team at the Institute of Zoology in London. He assists with bat surveys and, as he is a qualified tree climber, can provide visual tree and aerial roost

## Breakfast with The Ecology Consultancy!

We have now held four Breakfast Briefings at our London office, for architects, civil engineers and developers from south London. These have proved successful introductions to wildlife law, leaving our guests wanting more information. Our London series, all at 6-8 Cole Street, take place on the following dates:

- 2nd June BREEAM and CfSH** – Senior Ecologist, Matthew Wilson
- 7th July Biodiverse design** – Senior Ecologist, Ben Kimpton
- 8th Sept Wildlife and construction** – Managing Director, John Newton
- 6th Oct BREEAM and CfSH** – Senior Ecologist, Matthew Wilson
- 3rd Nov Biodiverse design** – Senior Ecologist, Ben Kimpton

**To book your place email [marketing@ecologyconsultancy.co.uk](mailto:marketing@ecologyconsultancy.co.uk).** We can also offer CPD sessions at your own offices - do get in touch to make the most of this free advice.

inspections using rope and harness. See: [http://www.ecologyconsultancy.co.uk/downloads/EC\\_Bat\\_%20Inspections.pdf](http://www.ecologyconsultancy.co.uk/downloads/EC_Bat_%20Inspections.pdf)

## The Ecology Consultancy is expanding north of the border!

We have set up a new office in Edinburgh and colleague Phil Davey, who recently retired from Natural England, is busy spreading the word about our services. From this location we will be able to cover Scotland and the north of England.

**Our Norwich office has moved** closer to the city centre and is now much nearer to many of our clients. The light and spacious third floor office not only has access to meeting rooms, but has a wonderful view over the Whittingham

Broad Reserve. There may be binoculars on the window-sill!

**In April**, our invertebrate ecologist Dr Graham Hopkins FRES, gave a talk to a joint meeting of the Royal Entomological Society and IEEM on the protection of invertebrates during the development and EIA processes. He identified the need for all Biodiversity Action Plan invertebrates to be more effectively protected via the planning system. As well as sharing their knowledge through public talks and university lecturing, several of our staff engage in research into balancing sustainable development with the needs of nature conservation.

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