

**NATIONAL FEDERATION
FOR
BIOLOGICAL RECORDING**

NEWSLETTER 39

October 2009



Habitats and habitat recording - report from the 2009 NFBR conference included

October 2009



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**NATIONAL FEDERATION FOR
BIOLOGICAL RECORDING**

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Note from the Editor

Thank you to everyone who has contributed to this newsletter. New contributors are always welcome, so if you would like something included in the spring edition, please contact me. The deadline for the next newsletter is 31st January 2010.

Carolyn Steele

Cover photograph: Kingcombe, Dorset ©Carolyn Steele

Charles James Thomas Copp (1949 - 2009)

A personal appreciation

Some 300 people packed into the Curzon Community Centre at Clevedon on 8th October 2009 for the memorial celebration of the life of Charlie Copp. He died peacefully on 23rd September surrounded by his family. Charlie had suffered from heart problems for some years and was diagnosed with a brain tumour two years ago. Charlie had always wanted to perform a “gig” at the Curzon – it was tragic but fitting that it had to be his final appearance, in a wicker coffin.

Without Charlie’s commitment to the development of biological recording over the last 30 years, it is probable that many of the concepts, practices and methodologies that we all take as accepted norms would not be in place. There can be few people working in biological and geological recording and data management in the UK that have not encountered Charlie, drawn inspiration or ideas from his work or, perhaps unknowingly, benefited hugely from his lifelong commitment to recording in many ways.

Charlie could be perplexing to those that operated in a more conventional universe than his, but at his best he was a brilliant communicator of complex, often challenging, ideas. He was wonderfully unpredictable in the business of putting over his ideas: as likely to arrive for a serious meeting with “suits” wearing bright red pixie boots, or interspersing a presentation on data models with a picture of himself as a fairy godmother, complete with beard and tutu, from his latest pantomime at Clevedon, or with a photo of mating slugs. Working with

Charlie was always fun, but also intensely productive. Numerous anecdotes about Charlie’s sense of fun and mercurial nature were recounted at the memorial celebration: these and many other stories about him deserve to be collated.



My own first encounter with Charlie was in September 1984 at the Biology Curators’ Group seminar *Biological recording and the use of site based biological information* held at Leicester. In his lecture he was overtly critical of the entire community of national recording initiatives and local records centres – a reference to re-arranging deckchairs on the Titanic stuck in my mind. Underlying everything that Charlie did was an interest in and deep knowledge of natural history in the broadest sense – he saw clearly the opportunities that biological recording offered to nature conservation, planning and research.

Charlie had been at Bristol Museum as Assistant Curator of Natural History since 1976 where he had set about making the putative local records centre into a reality, mainly using Manpower Services recruits. His team at BRERC included notable alumni such as Lawrence Way and Philippa Burrell. Charlie had also been

developing an interest in and expertise with the use of computers in documentation, and applying that to biological recording. His interest in computers had begun years earlier whilst doing a geology degree in Staffordshire, and in subsequent geological research.

In 1985, a small group of biological recording activists under Charlie's chairmanship formed a Steering Group, which led a year later to the formation of the National Federation for Biological Recording. The first (fairly) united voice of biological recording had been formed. Charlie was a life-long member of NFBR, with long periods on the Committee and as an office holder, including Chairman (2004 to 2008). The 2nd NFBR Conference in 1987 was hosted by Charlie and his team at BRERC, and discussions at this conference were the catalyst for the development of a prototype of Recorder by Stuart Ball.

In February 1989, Charlie left the security (and constraints) of employment at Bristol Museum to become self-employed in information technology. Partnership in a short-lived company (Antec) ended in a financial and administrative muddle and Charlie elected to be truly self-employed, working from home. He extended what was originally a wall cavity into a broom cupboard, which became his office. Charlie lived on his wits and his considerable abilities with information-related contracts, lecturing and writing. The early 1990s were a challenging time for Charlie and his wife Judy, not only from his work, but also going through the long, complex and emotionally draining process of adopting their delightful and talented daughters Alex and Lizzie. It was a very happy time for the Copp family, including the increasing number of cats.

Charlie secured the contract to work with me (overseen by Sir John Burnett) to plan, research and prepare the report of the Coordinating Commission for Biological Recording. This was pivotal for biological recording in general and also for Charlie in developing his career. It had been a considerable achievement for him to get that contract – a one-man-band in competition with half-a-dozen prestigious consultancies – but Charlie knew what he was talking about, whereas the consultancies clearly did not. Quite apart from the eventual consequence of the CCBR study – the development of the National Biodiversity Network – Charlie was able to strengthen contacts with agencies and local records centres in his new role as EIM - Environmental Information Management.

It is difficult to pick out highlights of Charlie's career once the NBN process had begun. There were so many! He was involved in almost every stage that related to information technology. Recorder, in its many manifestations, came to play an increasingly important part in his work, and this continued into his last year. He always seemed to be developing new aspects, data models and add-ons. Expansion into the management of geological and collections data and into its development for use overseas saw him promoting ideas and methods that were often years ahead of the thinking of others. He became increasingly involved with international projects and was particularly proud of his role at the Natural History Museum on the Thesaurus for the BioCase project.

Brevity was never his strong point – no relevant detail should be omitted – but often the detail was necessary to understand fully the intellectual leaps that he was suggesting or had achieved.

Punctuality also was not one of his strengths – he would often phone or email to discuss some point and let slip that he was (with the other hand) finishing a bit of work that should have been in last week. His arrival at meetings (even ones he was chairing) was at best unpredictable due inevitably to some transport or personal crisis.

Much remains unfinished, including a book *Bare Bones Buddhism* that he was working on until he could no longer write. His detailed thinking on the accreditation of local records centres, an eminently practicable piece of work, was prepared as a report and presented in several seminars. It fell on deaf ears a decade ago, but is now being revisited by ALERC with backing from Natural England.

The contribution that Charlie made to biological recording in the UK is unique - nobody else has contributed so much over so many years. It is good that this was recognised by the NBN Trust by awarding him Honorary Membership of the Trust in 2006. Charlie will be sorely missed by all that knew him and his absence will be felt by many that did not. He is truly irreplaceable.

Habitats and Habitat Recording

Notes from the NFBR Conference **(16th-17th April 2009)**

Event report by **Trevor James**
(Conference Co-ordinator and
Chairman, NFBR); and workshop report
by **Carolyn Steele (DERC)**

People say they enjoy the NFBR Conferences, which is good. Hopefully they also get something out of them, and feel they take away some ideas. Certainly the 90-odd attendees at this year's



But his work was only part of his life: his long marriage to Judy, and their daughters Alex and Lizzie, were at the real centre of his life. They shared his many interests and triumphs, and dealt stoically with the inevitable set-backs that life threw at him. The loss of this vibrant, amusing, stimulating and loving focal point in their lives is unimaginable.

Paul Harding
October 2009

conference, held at the rather stately venue of the Bowden Hall Hotel near Gloucester, seemed to be enjoying themselves, and there was a lot of discussion, even if the feedback is that there wasn't quite enough time for the latter. So, maybe people felt they had got a lot out of it, but could have got more. We will see what we can do for next year!

The subject area was not new, in the sense that some of us, at least, have been doing 'habitat recording' for a very long time. But there are a few things happening just now, and that have happened fairly recently, that have

brought this subject back into focus. First of all, local records centres have now developed quite sophisticated systems for collecting and handling all sorts of data, including habitat data. Secondly, the National Biodiversity Network Trust has got it in its work plan to enable 'habitat data' to be held on and searched through the NBN Gateway, alongside species data. Thirdly, the Government conservation agencies and others are beginning to demand ever more detailed data, not just on species, but also concerning the habitats within which they live. Increased detail, the urgencies of climate change, the need for monitoring – all these things focus down on habitats.

But have we ever really cracked what exactly we are recording when we try to record habitat, either on its own, or in association with species occurrences? These were some of the issues we looked at during the two day event. It started with an afternoon seminar for those that could spare two days, on the Thursday afternoon, when we examined the related issue of using volunteers to record habitat data. This was approached through the recent experiences of two local records centres – Cornwall and Dorset, who led the discussions.

Day 1 workshop : Using volunteers in Habitat Survey and Recording

To introduce the session and start everyone thinking about habitat recording, Gary Lewis (ERCCIS) gave a presentation on a project currently underway in Cornwall.

In 1988 the whole of Cornwall's habitat was mapped onto paper maps using 1985 aerial photographs. In 1995 this was updated using aerial photographs and this digitised map was distributed to Cornwall County Council, the Environment Agency and English Nature. In 2001 work began on a landcover change exercise – comparing 1995 data with more recent aerial photographs. Unfortunately, due to lack of funding the project was shelved having only completed North Cornwall until, in 2008, the project was revitalised

with funding from Cornwall County Council and Cornwall Wildlife Trust.

So what changes are they looking for? The work focuses on obvious habitat change or loss, for example loss or gain of standing water and loss of hedgerows.

The results will be verified by detailed ground-truthing, working with a stratified random sample of 60 1km squares, looking especially for change not easily monitored in sufficient detail using aerial photography alone. Tree planting, for example, can be clearly seen on a photo but to determine the composition of species needs fieldwork. Similarly some changes to agricultural grassland need a site visit to determine if changes are due to a failure in drainage or lack of grazing and revision to coarse grassland/scrub. Assisting with field work is where volunteer input is most likely to be useful

This project has some very clear outcomes: a new Landcover layer for 2005; a repeatable and comparable methodology; key data on habitat loss and gain; and a data resource to inform a "Cornish" Hedge BAP. There are currently plans to repeat the survey every 5 years to give a dynamic overview of Cornwall landcover change. The next aerials will be flown in 2010 and the analysis will be carried out in 2011. The whole project is funded jointly by Cornwall Council & Cornwall Wildlife Trust.

This case-study from Cornwall certainly gave us plenty to think about and compare with our own experiences. Dorset has never had "full coverage" habitat data, and I am always slightly envious of some of my fellow LRC managers who do have access to such data. Instead, probably like most counties, most of our habitat data is for wildlife sites with huge expanses of blankness in between. Cornwall should also be congratulated for building in plans for maintaining and updating their habitat data.

When the Dorset Flora Group was established two years ago, we had an

opportunity to think of tasks and projects that could be undertaken by this mixed group of amateurs and professionals, beyond the usual field trips and identification days. And a full-coverage habitat survey for Dorset was near the top of my list. So, is it feasible to run a habitat survey for a county, using volunteers? This first session on Day 1 gave us an opportunity to discuss our experiences and perhaps to find out.

It became clear quite quickly that not many counties had used volunteers in this way. There were several examples where small groups of volunteers had been tasked with recording in a smaller, more defined area such as within a parish.

Generally volunteers had not been used for recording in county wildlife sites.

Some of the other issues raised were also very valid, and not always with easy answers. How do you keep a recording group enthused, particularly if you are asking them to “fill in the gaps” which inevitably means covering a lot of not-very-interesting ground? If they are lucky they may hit upon a previously unknown area of unimproved grassland, for example. But in many counties that have been running CWS schemes for the last decade or more, this is unlikely. Working on and completing smaller chunks of countryside may well give a greater feeling of progress. In addition, if it is an area the recorder already knows, e.g. their own neighbourhood, it could add an extra level of interest.

Access to land is another issue which, as anyone involved in CWS schemes will know, can be a huge headache. Perhaps there are other ways of approaching the survey. With easier access to aerial photographs, perhaps surveys could be targeted to the more interesting-looking areas; avoiding the need for someone to visit every single hectare and record habitat. Or assign habitat from aerial photo interpretation, and leave the fieldwork for ground-truthing. This definitely has some appeal, and it may be an approach we try in Dorset.

The methodology used could also be a slightly tricky issue. In Dorset one of the reasons I haven't launched into habitat survey work immediately is that we have been moving across to using IHS over the past couple of years. It is taking some time for staff at DERC and in the wildlife trust to get used to a new way of doing things and I felt we needed more experience in using and recording in IHS before we tried teaching others.

I rounded off the session with a final example of habitat recording that had begun in Bournemouth Borough. This was a joint initiative organised by Nicki Brunt (Dorset Wildlife Trust), Pete Hawes (Hengistbury Head Centre) and Robin Walls (independent ecologist). Undergraduate students from Bournemouth University had been recruited to undertake a survey of open spaces within the borough. With the support of Bournemouth Borough Council, they managed to cover most of the parks, gardens, allotments, school grounds, playing fields and council owned sites. Perhaps not unexpectedly, most of the conservation effort has concentrated on areas such as Local Nature Reserves and SSSI. But if you add in the Bournemouth Wildlife Sites the potential area for enhancing biodiversity is almost trebled.

The Bournemouth project has continued this year with a research project looking at linking sites and the data has been fed into the Green Infrastructure Plan for SE Dorset. The project has also caught the interest of the local Bournemouth Natural Sciences Society who are using it as a basis to bring together recording in the borough and as an opportunity to focus their considerable expertise on sites on their doorstep. The steering group are now looking at future projects for students.

Although we did not reach many clear answers, I found it a useful discussion and an opportunity to find out a bit more about what had happened in other parts of the country.

Day 2: Presentations and discussions

The main conference day was on Friday. Our subjects were many and varied – moving from the practical work of habitat survey itself – through to new technologies.

Nicky Court (HBIC) reflected on 31 years (!) of habitat survey in Hampshire, where they have a sophisticated programme of re-survey of wildlife (SINC) sites, including to Phase II level. They have now got to the stage of being able to do quite sophisticated analysis of data. They are also now using the IHS, mentioned earlier. But even they do not have 100% cover, and 'only' 21% of Hampshire is covered by Phase II survey. One point of importance was mentioned: the quantity of data attached to a particular GIS polygon that can now be captured using the IHS, and the system's capacity to track change. Nicky particularly noted, though, the need for development of the IHS to make best use of it: through version control, a standard process for updates, a standard data capture tool, and a standard symbology for analysis and display. She also talked about the kinds of detailed analysis that are possible with high quality habitat data, such as developing predictive models for habitats, and the creation of a 'Habitat Sustainability Index', which can be applied to identifying Biodiversity Opportunity Areas, which obviously has a lot to offer for Natural England's Landscape Character work.

Liz Biron (SERC) (having arrived rather breathless, and not having heard Nicky's comments on IHS and its needs), gave us a further insight into Somerset ERC's ongoing work with IHS. There are problems – brought about by modern focus on BAP, and the need to integrate data with other standards, such as EUNIS and CORINE, not to mention NVC. There are also other gaps, such as the need for a protocol for interpreting air photos, and a 'translation tool' between standards. But, as she stressed, there are more fundamental remaining problems – such as the lack of a properly supported habitat classification standard, and the lack of

formal support from conservation agencies. As she pointed out – the existing system, seen by many as a new 'standard' was actually only developed by SERC with £50,000 of its own money, without any outside assistance. More is needed, and not just for development, but also training in its proper use.

Martin Hicks (Hertfordshire BRC) came with a brief to talk about the application of habitat data in site protection and management. He started by pointing out that if we are recording habitat data, we need to remember the needs of users of those data. For site protection – an accurate understanding of the evidence base upon which assessments are made is important. He also stressed that, for many species protection issues, we need to be able to measure and relate to micro-habitat characteristics that are not addressed by current habitat recording systems, and which are hard to take into account in assessments. We need to be able to measure change in habitats, too (an issue Nicky had drawn attention to); and he remarked on the danger of being swamped with data without having a clear view as to how it can be best applied.

After a noisy lunch with much discussion, as well as a very brief NFBR AGM, **Claire Pinches** from Natural England came at the subject from the perspective of an Agency's work on a particular biotope – grasslands. NE had recently re-examined the Grassland Inventory, which had shown clearly what a 'mixed bag' of data it relied on. Not only were the data gathered in all sorts of ways, for different reasons, with no clear standards in many cases, there was also the increasing problem of data being out of date. As a result they were developing processes to update data on a regular basis, and also to apply standardised rules on assessing the relevance of data for the inventory. However, this is all very well, but the result is that only 39% of all grassland site data meet this up-to-date criterion, and 50% of all the previous inventory sites have not been updated at all. One point she mentioned was the value of photographs as a tool in assessing real value of sites

(something a lot of us have been doing for a long time!). However, whatever the drawbacks, we need to focus on the fact that this kind of data is urgently needed for focusing £600M of agri-environment spending over the next 4 years to best advantage. It is an incentive to get it right.

Then we were off into the realms of the future, with **John van Breda** firstly talking about the work he had started on – developing the ‘Indicia’ on-line recording toolkit that we have heard so much about (and for which our late Chairman, Charlie Copp was heavily involved in the initial thinking). This is being paid for by the Big Lottery Fund, through the NBN Trust, from the OPAL Project. As John pointed out – with new technologies so readily available, there are too many ‘home-baked’ systems out there already, many of which only do part of a job. The cost of development is considerable, and so a ‘free’ toolkit for web developers to set up their own systems is being provided, that will aim to standardise the approach, and ensure data are collected in such a way that they can be utilised in different data systems. It was initially just a species system in concept, but has been expanded to potentially accommodate habitat data as well, through polygon-based records. O.S. underlying data can be used, and it allows for customisable classification systems. On-line digitisation is available, that can be improved upon later. Data can be exported to GIS and to databases, and reports can be generated from the system.

This was followed by a talk from **Richard Burkmar**, who was then a programme developer working with the NBN team at Lancaster, who had been working in parallel with the Indicia development to enable the NBN Gateway to handle habitat data. As he pointed out, they were at the initial development stage, and needed to assess needs. For example, it was obvious that there were large quantities of habitat data out there of different quality and based on different standards, as we had been hearing. This creates problems of interpretation and synthesis.

The round-up discussion was rather curtailed, but nevertheless a few important points were made: the need for local records centres to be properly resourced to capture and handle complex habitat data; and the need for current ‘standards’ to be improved upon and properly resourced themselves, notably the IHS, for which a formal review needs to be undertaken. The issues of the technical developments needed for things like habitat data capture and mobilisation of habitat data ought to be the focus of future discussions, beyond this Conference.

A number of key points were asked to be ‘taken back’ by those present – notably Natural England:

- **The need for a formal review of the Integrated Habitat System and its needs for support and development** (considered the key message from the Conference).
- The need for responses to the themes of this conference to be fed back to the Agencies by local records centres in particular.
- The need for national recording schemes to broaden their focus away from ‘good sites’ to the broader environment, and to relate these data to habitat more.
- The need to make better use of a broader pool of people (including volunteers) to carry out well-designed habitat survey, to fill the gaps and provide up-to-date inventory. This would require a much greater emphasis on training.

Plans for next year’s conference are already taking shape. See back cover for details.



OPAL: Inspiring discovery and celebration of the natural world

Lucy Carter (OPAL Project Officer)

I never thought I would spend so much time thinking about, looking for and identifying worms as I did during the OPAL Soil and Earthworm Survey! This humble and often overlooked creature occupied all our attentions this Spring, and as a result we now have thousands of new earthworm records that scientists are eagerly analysing as I write. All the worm-related excitement was inspired by OPAL (Open Air Laboratories), a pioneering project that invites members of the public to team up with scientists to explore nature and to monitor the quality of their local environment. OPAL is a five-year partnership initiative supported by the Big Lottery Fund. Fifteen partners including the Natural History Museum and Imperial College London are working together to encourage people to spend more time outside understanding the world around them.

OPAL has dedicated research and outreach staff across England who are delivering an ongoing programme of local outreach and training events as well as running five nation-wide public participation surveys. These surveys aim to introduce people to some of the common plants and animals that they perhaps overlook in their everyday lives, and to help them use these organisms to discover something about the quality of their local environment. The surveys also introduce people to basic scientific skills such as using keys, identifying, recording, and importantly, submitting records. OPAL is not just encouraging the next generation of nature enthusiasts but also helping to train the next generation of biological recorders.

OPAL Soil and Earthworm Survey

The OPAL Soil and Earthworm Survey is the first in a series of five national surveys that will run until December 2012. Each explores a different aspect of our

Get involved with OPAL

Regional events OPAL staff across England are looking to team up with local naturalists to deliver events, training and activities to their local communities. This is a great way to share your expertise whilst publicising your society or recording scheme.

Funding OPAL is running a small grants scheme for natural history societies and recording schemes. The first round is now over, and the second will be advertised in February 2010 so keep an eye on the website for details.

iSpot iSpot is an online social networking site that aims to connect beginner naturalists with a supportive community of experts and fellow enthusiasts. Your profile in the community grows as you share images, identify species correctly and contribute more to the community. If you're already knowledgeable about wildlife, can you spare some time to help others learn about what they've seen? And if you're involved with a recording scheme or society then get in touch to find out how you can be 'badged' on iSpot, with links through to your own website.
www.iSpot.org.uk

Online recording software Indicia is a new toolkit that makes the development of online recording websites simpler, quicker and less costly. The project is Open Source, which means you can have the code for free. Indicia helps web developers create websites which allow data entry, mapping and reporting of wildlife records.
www.biodiverseit.co.uk/indicia

environment – soil, air, water, biodiversity and climate.

Soil is one of the world's most precious natural resources. It is vital for plant survival and provides a home for a vast array of animals including earthworms. Earthworms are known as 'nature's plough' because their burrowing turns over vast quantities of soil. This improves the

structure, water infiltration, nutrient level and aeration of the soil. The aim of the OPAL Soil and Earthworm Survey is to investigate links between soil characteristics and earthworm population distributions across England. Since earthworms are sensitive to the environment, looking at their distributions alongside soil properties will give a useful insight as to whether they can be used as bio-indicators for soil quality.

OPAL has produced a survey guide which includes a key to the 12 commonest species of earthworm, plus instructions on how to test soil characteristics. These materials are available to download from the OPAL website www.OPALexplorenature.org. Now that autumn is here and the ground is less dry, it's a great time of year to look for earthworms again!

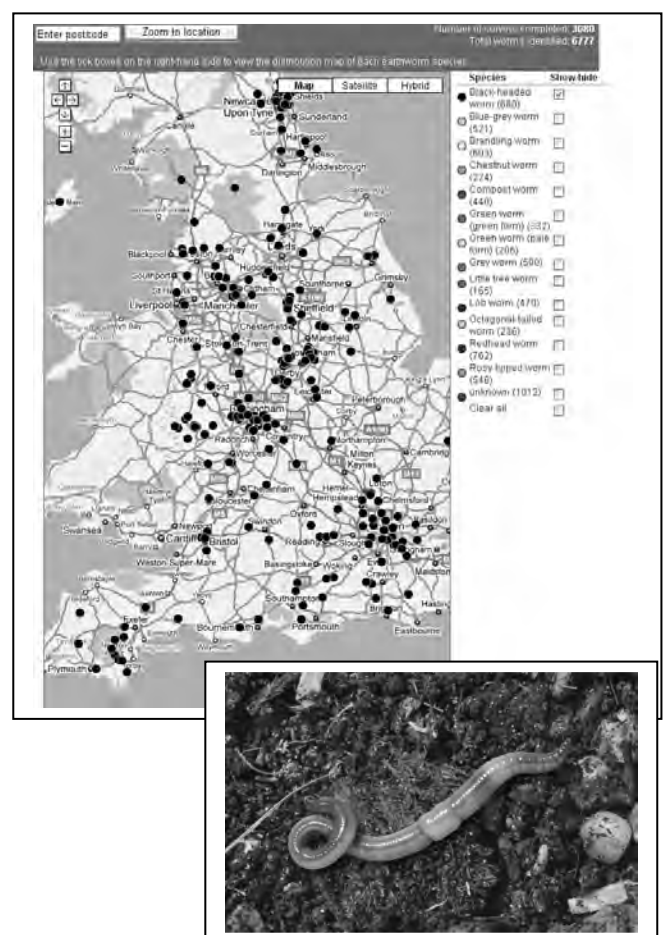
To date 3,084 survey results have been submitted to the online system with a total of 6,782 earthworms recorded. Participants view their results on a map with all other records, and can compare their results with those of other participants. Throughout the survey OPAL has been expanding the results mapping functionality of the website, and users can now view distribution maps for each species of earthworm that has been recorded. As the data is analysed by OPAL scientists, feedback on the outcomes of the survey will be posted online too.

The results so far...

As expected, the species most commonly identified were those that are abundant, widespread and are found in gardens and playing fields, as these were the habitats most commonly surveyed. The most frequently recorded earthworm was the Redhead worm *Lumbricus rubellus* (762 individuals), a widespread species that lives in the topsoil. Second was the Black-headed worm *Aporrectodea longa* (682 individuals). Again this is an abundant and widespread worm that burrows vertically in the soil. Less abundant species and those normally found in habitats other than

gardens and amenity grassland were less frequently reported.

Before the survey launched, members of the OPAL Soil Team from the Natural History Museum and Imperial College extensively tested and improved the earthworm key. Unsurprisingly, adult participants got the identifications correct more often than children did. For quality assurance purposes after the survey launched, 148 surveys by members of the public were collected and the worms identified by museum experts to determine the level of accuracy. This varied considerably between species, up to a maximum of 98% accuracy for the Black-headed worm *A. longa*. Keep an eye on the OPAL website for more detailed results later in the Autumn.



An earthworm distribution map from the results pages of the OPAL website and photograph of the Green worm (*Allolobophora chlorotica*)

What next?

OPAL is launching a brand new survey every six months and there's something in the air this Autumn! Lichens on tree trunks and the tar spot fungus (*Rhytisma acerinum*) on sycamore leaves are both potential bio-indicators of nitrogen-containing air pollution. The OPAL Air Survey launched in September and participants across England are using

these bio-indicators to discover more about the the air quality in their local area. OPAL would like as many people as possible to take part in the survey, so contact me if you would like a free survey pack (lucy.carter@nhm.ac.uk).

Alien Species in the British Isles

Helen Roy¹, Olaf Booy², Niall Moore²,
David Roy¹ and
Mark Hill¹



Invasive (IAS) are alien species recognised as one of the major drivers of biodiversity loss (Millennium Ecosystem Assessment, 2005). The Convention on Biological Diversity (CBD) defines alien species (*syn: non-native, introduced*) as “a species, subspecies or lower taxon (such as a variety, race, provenance or stock), introduced outside its natural past or present distribution; includes any part, gametes, seeds, eggs, or propagules of such species that might survive and subsequently reproduce” and an IAS as “an alien species whose introduction and/or spread threaten biological diversity”.

The number of non-native species in Britain is steadily increasing; a recent inventory documented that over the period 1990-2007, the mean proportion of records of non-native species in samples of birds, mammals, plants and marine life increased by 23% (Hill et al., 2009). The absolute proportion of non-native species is only about 1% of the total biota and only a small number of these are considered as IAS. However, the significant threat of IAS is widely recognised through international policies and directives and European States have to:

“eradicate those alien species which threaten ecosystems, habitats or species” (UN Convention on Biological Diversity);

“ensure that the deliberate introduction into the wild of any species which is not native to their territory is regulated so as not to prejudice natural habitats within their natural range or the wild fauna and flora and, if they consider it necessary, prohibit such introduction” (European Union Habitats Directive);

“strictly control the introduction of non-indigenous species” Bern Convention on the Conservation of European Wildlife & Natural Habitats.

The Biological Records Centre (within the Centre for Ecology & Hydrology) is collaborating on a number of projects that focus on non-native species. The DAISIE (Delivering Alien Invasive Species Inventory for Europe) project (www.europe-aliens.org) is a European partnership coordinated by BRC. Earlier this year BRC led the development of an indicator of the abundance, extent and impact of invasive non-native species in collaboration with British Trust for Ornithology (BTO), Marine Biological Association (MBA) and Food and Environment Research Agency (FERA). This was published in the Biodiversity in Your Pocket available for download at http://www.jncc.gov.uk/pdf/Biyp_2009.pdf. BRC continues to host the Harlequin

Ladybird On-line Survey
(www.harlequin-survey.org) working
with the University of Cambridge and
Anglia Ruskin University to deliver high
resolution data for this species. This
project was recently selected by the Royal
Society for the Summer Science Exhibition.



Photo: Muntjac (provided by BNSS)

Currently BRC are working with the Non-native Species Secretariat, BTO, MBA and the NBN to deliver the **GB Non-native Species Information Portal**. This three year Defra funded project, launched earlier this year, aims to enhance our ability to detect and report invasive species, and so enable effective decision-making. Specifically, the aims of the project are to:

1. document the arrival and spread of non-native species in Great Britain;
2. assess whether there are changes in the rates of these processes;
3. document the impact of non-native species introductions to Great Britain; and
4. make this information available to key data users via web-based media.



Photo: Water Primrose (provided by BNSS)

One of the greatest challenges for this project is to facilitate rapid data flow of non-native species to the NBN Gateway. The project team would be very interested in hearing from you if you have any ideas or would like more information.

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AONBs and Local Records Centres: leading the way in mapping Priority Habitats

Steve Roe (HBRC Manager, 9th February 2009)

BAP Priority Habitats ("Priority Habitats") represent some of the best habitats that the UK has to offer. Their scope covers familiar habitats (such as Lowland Meadows, Traditional Orchards and various native woodlands) to those less familiar (Open Mosaic Habitats on Previously Developed Land, Inter-tidal Mudflats, Mud Habitats in Deep Water). Whilst recognising the value and quality of these habitats, the question of where exactly they exist is in fact less certain than one might realise. For some only preliminary and generic work has been undertaken to identify the exact location of the habitats within the provisional National Habitat Inventories. Doubts have been expressed as to the accuracy of the Inventories (Hewins *et al.* 2005). Often – where exact habitat boundaries were not known - this led to "overlaps" where there is an apparent occupancy of multiple habitat types within one larger site. Clearly it would be advantageous to gather source data and map individual habitats within such larger sites to the correct Priority Habitats. Reporting for Biodiversity Action Plans is difficult without such local appraisals, evaluations and checks.

HBRC undertook research for the AONB Units (Price & Roe 2007) and this recommended that Priority Habitats Inventories were one priority for future action. Thankfully a major piece of work had been undertaken with South-west England (the "South West Pilot" see Burke & Totterdell 2004). Among other things the South West Pilot had mapped and improved the Inventories, and had developed the mapping protocols. It had also produced baseline Priority Habitats Inventory for Gloucestershire. Once such "desk study" was completed, targeted field survey could then be undertaken to investigate areas without such habitat data, or to gather new survey data to improve upon older assessments, and the data used to inform conservation action.

The creation and refining of such a Priority

Habitats Inventory across two AONB Units is a major task involving two countries, 2 country agencies and 4 Local Records Centres (LRCs). Building on previous Priority Habitats mapping undertaken by Herefordshire Biological Records Centre we were able to train six LRC officers to assess and digitise the habitats. Once training was completed, paper and digital datasets which had been provided by Countryside Council for Wales, Natural England, Malvern Hills Conservators and Worcestershire County Council were used alongside data already held by the LRCs to assess against Priority Habitats definitions. This required a translation from the source habitat assessment (for example a Phase 1 Habitat or an NVC community code) to given Priority Habitats type and the recording of levels of confidence in the assessment. Confidence in interpretation is based mainly on type, quality and age of data and standard data capture tools and data formats are used.

Whilst the mapping has yet to be completed across the AONB Units, the existing data has been made available on licence to the AONB Units, Local Authorities, statutory agencies (to assist the targeting and implementation of *Environmental Stewardship /Tir Gofal*) and others to support their work. The data will be used to inform BAP reporting, and to feed into National Inventory reviews undertaken by Natural England.

The work would not have been possible without funding from the Malvern Hills AONB Unit and the Wye Valley AONB Unit

Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 describes "Habitats and Species of Principal Importance" (UK BAP Priority Habitats) considered by the Secretary of State to be of principal importance for conserving biodiversity: BAP Priority Habitats are listed in Section 41. Public bodies (including local and regional authorities) when carrying out their normal functions are required under Section 40 of the NERC Act 2006 "to have regard" to the conservation of biodiversity in England. The Section 41 list should be used as a guide by any public body which has the biodiversity duty under the NERC Act.

or the match-time that has been provided by LRCs to complete key areas of mapping. Thanks also to the officers within CCW, NE and other organisations for providing access to their data. Outside of the AONB areas further development of the baseline “desk-study” Priority Habitats data is planned: LRCs are seeking support and partners to fill the Priority Habitats gaps! Beyond this, it would be hoped that pro-active site survey can be initiated.

Local BAP Priority Habitats can be described within Local Biodiversity Action Plans and these do not occur on the Section 41 list. Further information and details of BAP Priority Habitats can be found at www.ukbap.org.uk. National Inventories can be viewed on MAGIC webpage www.magic.gov.uk and GIS datasets for these can be downloaded from Natural England www.naturalengland.org.uk and Countryside Council for Wales www.ccw.gov.uk.

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PUBLICATIONS REVIEW

Bees, wasps and ants of Kent, a provisional atlas

Geoff W. Allen. 118pp. designed and published by The Kent Field Club. ISBN 978-0-9561926-0-8. £22.50 including p&p, available from Mr R Moyse, 2 West End Cottages, Doddington, Kent ME9 0BZ.

This is the first book in a brand new series produced by the Kent Field Club describing the distribution and status of the fauna and flora in Kent. Atlases at the compilation stage include ones on plants, dragonflies and seaweeds of the county all produced in a common, easy to read format, illustrated with coloured maps and photographs of key species. The year ahead will therefore be an expensive one for the Field Club assuming all the books are published on time.

There are 440 distribution maps and 7 composite maps for the 448 species of aculeate Hymenoptera recorded from Kent plotted from a database of approximately 55,000 records. All families are covered apart from the Dryinidae, Embolemidae and Bethyridae (an additional 22 species) for which a brief résumé is given. The book emerged as a result of the author acting as the county referee for this group of insects and compiling the first proper electronic database for Kent's aculeate Hymenoptera. All these records have now been transferred to the newly-created Kent & Medway Biological Records Centre, Faversham, which in its first three years of existence now holds more than 2 million taxa records.

The introductory chapter describes the classification of the Hymenoptera and includes brief accounts of their nesting, foraging and parasitic behaviour in relation to Kentish species. The main part of the text (87pp) is devoted to individual species accounts with maps, where appropriate. Recording is divided into four date classes, pre-1910, 1910-1949, 1950-1984 and 1985-2007, using a combination of coloured dots and a + symbol for pre-1910. Black dots, which stand out most, have conveniently been used for the most recent period when most of the recording was undertaken. There are up to six maps per

page, each measuring 8 x 5cm, just about the right minimum size for readers to easily comprehend the distribution of species in a county the size of Kent (c. 4000 sq.km). Luckily the underlying geology and associated plant communities are relatively easy to delineate and these are displayed on each map as seven mainly east-west bands across the county. The darker colours used for the dots means that they stand out very clearly on the map even when positioned against the same colour background.

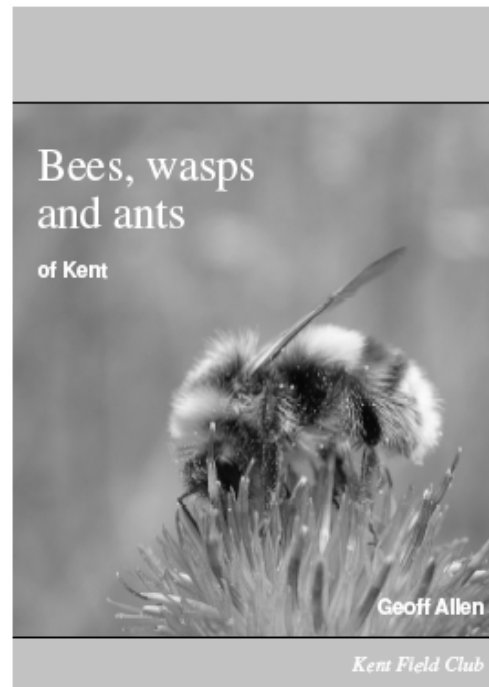
The frequency of occurrence of each species is given below the maps in numerical form: the number of post 1985 tetrad dots (equating to present distribution), the total number of tetrad dots (pre-1910 -2007), the observed period of adult activity (no-one seems to study any other part of the life cycle) and national and local statuses.

Coverage is pretty good with records from 898 of the 1121 tetrads representing vice-counties 15 and 16 (East and West Kent, respectively). The author rightly advises caution when interpreting the apparent changes in distribution of certain species that span several date classes indicating these might equally be due to recorder effects. John Felton and Gerald Dicker were highly active recorders over slightly different periods during 1950s-1980s with different specialisms and the maps reflect the intensity of their recording. Ideally each recording area should be surveyed a similar number of times, but with a small band of active recorders this is not possible in Kent at the present time.

Nevertheless, changes in distribution are apparent - until about a decade ago there were more specimens of hornet in the county collection at Maidstone (<5) all dating from >50 years ago than from the field, whereas today the wasp appears to be spreading eastwards across the county in a true wave of expansion. If there hadn't been the odd specimens in the museum for verification, one might have concluded the hornet was an entirely new species to the county. So, collections remain important even in the digital age. Species distributions can change extremely rapidly, for example the tricolored bumblebee *Bombus hypnorum*, a recent colonist in the UK, is recorded from two

isolated squares in the atlas but has appeared at numerous sites across the county this year. Kent can also expect the re-introduction of an extinct bumblebee in the next few years.

Geoff is a natural artist. Numerous illustrations of bees and wasps drawn by the author especially for the book are included and these



are all of a very high standard. These together with a scattering of colour photographs add strength to the species accounts.

The book ends with a number of appendices listing aculeate species possibly but not conclusively recorded from the county, species that might yet be recorded particularly those expanding their range due to climate change and doubtful species. There is also a page devoted to explaining the base map showing the land divided into a series of Natural Areas, each with a characteristic association of geology, wildlife and landform. On reflection, this map should have been placed at the front of the book for easier reference and not hidden away in the appendices.

This is the eighth atlas published by the Kent Field Club and the author is to be congratulated on bringing together all the information on the county's aculeate Hymenoptera in such an attractive book.

John Badmin

Woodlice and Waterlice (Isopoda: Oniscidea & Asellota) in Britain and Ireland

Steve Gregory. Published for the Biological Records Centre, CEH Wallingford by the Field Studies Council, 2009. Softback. 175pp. ISBN: 978 9557672 8 9 £19.95 (available on-line through the FSC website).

If you have never thought of trying your hand at working on the woodlice of Britain, now is your chance!

This book is more than just a species atlas. It is a species-by-species examination of the countries' Oniscid and Asellota fauna, with quite detailed accounts of the distinctive features of individual species, their distribution, species habitats – from the perspective of broad biotopes down to the 'microsites' that they inhabit within them, as well as their species associations and world-wide occurrence.

It also has a broad range of other chapters concerning the history and background to recording in Britain and Ireland; a chapter devoted to examining the overall habitats in which species occur and their niches within them; an account of their overall biogeography (including the origins of our fauna – a daring look at a difficult area, dependent as it is on the exigencies of fossil survival); their relationship with mankind; their conservation (a neglected topic for many invertebrate groups); and finally a whole section on how to go about collecting, identifying and recording them. It is also rounded off by a full seven and a half pages of references for those that want to really pursue the issue more closely.

This is, of course, not the first book about UK and Irish Woodlice (although the Waterlice tend to have been neglected until now). It is not even the first woodlouse atlas (its precursor *Woodlice in Britain & Ireland* was produced by P. T. Harding and S. L. Sutton as long ago as 1985). However, it is the first publication to bring together so much information on these fascinating, but strangely rather neglected creatures. Most of all, it is the first publication to have an almost

complete series of fine photographic illustrations of the species (although the text stresses that proper examination of specimens and the use of keys is necessary to do the identification job properly, avoiding either the misidentification of common species as similar rare ones, as well as the reverse!).

The atlas maps, of course, remain a central part of the publication. These are produced at three-quarter page size, which might seem a little extravagant, especially with those only having a relatively small number of records. However, it is perhaps easier on the eye for more common species, and allows the individual 10km square to be identified relatively easily. The overall coverage of the recording effort is depicted in separate maps for the two major groups, alongside separate maps depicting both frequency of records and species richness (as derived from the overall recording effort). These latter maps show that there is the inevitable patchiness of recording, depending on the energy and dedication of certain people, so that the Midlands tend to look well-recorded, while areas like my own County of Hertfordshire are woefully under-studied! This inevitably creates some problems with interpreting the overall distribution of particular species, because we need to bear this bias in mind. It may be self-evident when we see holes in the distribution of a common species like *Oniscus asellus*, but it is certainly a problem for deciding just how scarce something like *Porcellio laevis* really is. This sort of thing is nothing new, of course – and will, we hope, encourage people to get out there and fill in the gaps.

I could find very few errors in my quick read through the text, and the quality of the production is as we have come to expect recently from the Field Studies Council, who have now taken on the job of producing these atlases for the BRC on a long term basis.

My only quibble would be that it was a pity that the opportunity was not finally taken of making this a complete book about Woodlice and Waterlice in the UK by including a high quality identification key (and maybe just a

little bit more about the biology of the species). The most recent key to most of the species is the late Steve Hopkins' *A key to the woodlice of Britain and Ireland*, published also by the FSC in its Aidgap series. Although incorporating his keys in this publication might have been seen as some sort of competition for potential sales, nevertheless, it would have served to give us an even fuller book about these engaging beasts. We could also, perhaps, have had an easily accessible key to the Waterlice as a result.

This is a small quibble, though. I would thoroughly recommend that anyone with a serious interest in getting to proper grips with 'minibeasts' (as opposed to a simplistic approach to them, so often encouraged by lesser publications) should go and buy this book now. All power to FSC and BRC's elbows in producing more like this.

Trevor James



Launch of the Association of Local Environmental Records Centres (ALERC)

Thursday 1st October 2009 saw the formal launch of the Association of Local Environmental Records Centres (ALERC) as a Community Interest Company. ALERC has been established to represent, support and provide advice to LRCs in the UK. It exists to:

1. Promote and encourage the completion of a UK wide network of LRCs;
2. Promote and develop good standards of practice in the collation, validation, management, dissemination and analysis of biodiversity, geodiversity and related data;
3. Promote and represent LRCs at all appropriate geographical, administrative and organisational levels;
4. Develop accreditation and professional training for local records centres and their staff;
5. Encourage and facilitate cooperation within the LRC community.

Membership of ALERC is open to all LRCs in the UK including those at a developmental stage. Individual membership is also available to those who have previously worked within an LRC and continue to have a positive interest in their development, and to volunteers who are actively working within a LRC. Membership will not be open to other partner organisations although the ALERC website (www.alerc.org.uk) will be accessible to all, with a private members' section providing services to members only.

It is hoped that ALERC will achieve widespread support from the LRC community. With this support and resourcing in place, ALERC will be in a position to tackle a range of issues affecting LRCs, whilst allowing key LRC staff to concentrate on their local roles, safe in the knowledge that the interests of their LRC are being professionally represented at all appropriate levels.

For further information on ALERC and its planned activities, or to obtain an application pack, please contact **Adam Rowe** on 029 2064 1110 or via adam.rowe@sewbrec.org.uk.

National Federation for Biological Recording
assisted by the Freshwater Biological Association

Annual Conference and AGM 2010

The Belsfield Hotel, Kendal Road, Windermere
LA23 3EL direct line 015394 40502 (Vivienne)
www.corushotels.com/belsfield

***Recording freshwater species
and habitats***

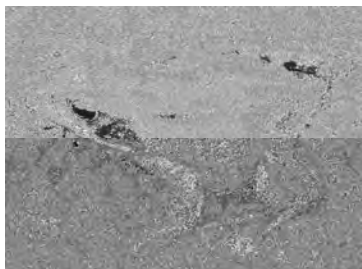
ADVANCE NOTICE

Thursday April 15, 2010: 3.00-5.00pm - Opening Session.
Friday April 16, 2010: from 10.30am including a presentation from the Freshwater Biological Association with AGM @ 1.30pm.
Saturday April 17, 2010: Field Visit to Esthwaite Water followed by visit to Freshwater Biological Association at Ferry House.

The Freshwater Biological Association will support the additional day (Saturday); if you are planning to attend, please could you email John Newbould.

ACCOMMODATION: We have negotiated a special rate with the Belsfield Hotel, which has around fifty rooms available. The rates are £130 per night, dinner, bed and breakfast for a double/twin room or £90 for single occupancy, when rates normally rise. These rates will be available at the weekend. Delegates are advised to make the booking directly with the hotel. Alternatively the Windermere Tourist Information Centre will advise on other local accommodation Tel. 015394 46499. The nearest alternate hotel is the Burn How Hotel Tel. 015394 46226. www.burnhow.co.uk.

DELEGATE COSTS: *Members:* Both days: £40. Friday only: £30.
Non-members: Both days: £50. Friday only: £40
Bookings received after April 1st 2010 will be charged at the full rate.



Frog



The Belsfield from the pier



Studley Royal N.T.

Administration: John Newbould, 01305 837384 john_newbould@btinternet.com
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