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**BRISC**

BIOLOGICAL RECORDING IN SCOTLAND

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Woodland Trust in partnership with the Tree Register of the British Isles and the Ancient Tree Forum. The aim of this project is to gather some simple information about every ancient tree, so we can discover the distribution of ancient trees across the UK. The trees which are surveyed are entered onto a national database, and in the near future it will be possible to see where they are all located via interactive on-line maps. In addition, the partnership is working with other organizations such as the Ramblers Association and the Natural History Museum to collect data about existing mature elms to develop an elm map.



Ancient Oak in Dalkeith Park

photo A-M Smout

## MAPPING A FUTURE FOR ANCIENT TREES

Jill Butler

Ancient trees are a vital part of our natural and cultural landscape. Some experts believe that Britain may be custodian of many of northern Europe's most ancient trees. They provide a habitat for a unique array of wildlife and also give us an insight to the lives of past generations of people in ways that no other part of our natural world is able to do. And yet, unlike structures of brick and stone, these living edifices are virtually unprotected. We do not know where they all are, how fast they are disappearing, or if there will be future generations to take their place.

To address this gap in our knowledge, a new project to compile a UK database of ancient trees has been launched by the

To take part, log onto [www.ancient-tree-hunt.org.uk](http://www.ancient-tree-hunt.org.uk) and enter your records on line or download a spreadsheet and email the records back to the web site. It is a huge task, but with everyone's help, especially those who are out and about in the countryside recording particular species, we can record every single ancient tree. Armed with a comprehensive map of all the UK's ancient trees we would be able to:

- Increase awareness of the importance of ancient trees in UK landscapes.
- Lobby for more public protection for ancient trees.
- Identify the location of the main concentrations.
- Monitor current threats and future losses.

- Campaign for more trees in the countryside which will become ancients of the future.
- Help us plan how best to conserve them for the future.

So what do you look out for? It is difficult to define an ancient tree precisely, but it is one that is old, fat or hollow by comparison with other trees of the same type. Some ancient trees are instantly recognisable, but others can be less obvious. A tree in natural conditions passes through three main stages in its life: growing from seedling to a mature tree, fully mature to late maturity, and finally ancient. It is those in the latter category that we are looking for, and often their canopies will have started to break up or even shrunk, leaving a short squat tree with a very large trunk compared with much younger trees of the same species. However, girth size on its own is not always a good indicator of age. Different species vary enormously in girth – just compare an ancient oak with a trunk circumference of more than 6m with an ancient birch with a girth of about one metre.

Also look out for pollarded trees – trees that have been cut at about head height for fodder and timber down the centuries. It has been estimated that these can have a girth that is a third of the size of a maiden (i.e. untouched) tree.

Generally speaking, the older and fatter a tree is, the more important it is for wildlife. Where a number of ancient trees are gathered together, and the more there are, the more valuable they are for biodiversity. Ancient trees are the pinnacle of important decaying wood communities. They provide extraordinary niches for an exceptional range of nationally and internationally scarce species of wildlife. These species rely on the decay process in the heart of the trees – which is a very specialised habitat and they have very individual life styles to suit.

So where do you look for ancient trees? The greatest concentrations of ancient trees are found in traditional forests, wood pastures, parkland and wooded commons. However, a relict individual ancient tree, or group of trees, may be all that remains, standing isolated in fields, hedgerows, middle of housing estates or developments. Look for ancient trees in both the lowlands and the uplands, along the sides of burns or on mountain sides. We would like to record all the granny pines in Caledonian pine forests, all the old alder pollards along the sides of gullies and every single ancient birch or rowan.

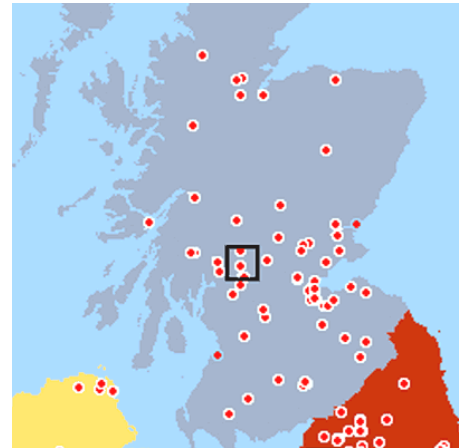
Scotland has a rich heritage of ancient trees. Some of the trees are described in *Heritage Trees of Scotland*<sup>1</sup>. We would like to capture stories and histories of the trees. One of the oldest trees in the UK – the Fortingall Yew – has intriguing legends associated with it. Many people have sent us stories about their special trees. Alternatively there may be a rare lichen or fungus or bat roost associated with a tree which would be helpful to know. The aim of the elm map is to locate all the elms so that

<sup>1</sup> Rodger, D., Stokes, J. & Ogilvie, J. (2003) *Heritage Trees of Scotland*. Tree Council

natural history experts can find and visit them more easily and identify rare species still linked to them.

Over the past few months, several new and remarkable trees have emerged from local ancient tree surveys, and raising the profile has certainly helped to secure a future for some. So keep your eyes open and a tape measure or a piece of string handy for when you are out and about and send in your records.

A map showing some of the ancient trees and ancient tree sites in Scotland. You can zoom in via the black square to a sample area which demonstrates how the map will work in future. A new interactive map showing more records is soon to be live on the Ancient Tree Hunt web site.



## Basking Shark and Turtle Watch

The Marine Conservation Society, dedicated to the protection of the marine environment and its wildlife, is involved in a number of surveys to gain valuable information on endangered and protected marine species in UK waters. The basking shark watch and turtle watch are volunteer sightings schemes that encourage the public to report their encounters with basking sharks and turtles in UK coastal waters in order to build up an insight into the life history, distribution, population dynamics and general ecology of these spectacular animals. If you are interested in becoming involved in the sightings scheme, please contact Joana Doyle at the MCS to receive an information pack with more detailed information about the sighting schemes as well as report cards – these can also be found on the MCS website. You will also be asked to display their posters where people can see them, and help to encourage anyone to report any sightings to the MCS. Historical data and any past sightings are also welcome.

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[The above project is run in tandem with Scottish Natural Heritage's long-running marine turtle recording scheme. SNH contact is

Dr Martin Gaywood, SNH,  
 2 Anderson Place, Edinburgh EH6 5NP  
 E-mail [martin.gaywood@snh.gov.uk](mailto:martin.gaywood@snh.gov.uk) – ed]

## The slender slug with a penchant for fungi - *Malacolimax tenellus*

The Conchological Society of Great Britain and Ireland has launched, through its magazine, *Mollusc World*, a series of projects to up-date information on marine and non-marine molluscs and is inviting collaboration from other organisations. One of the surveys is for a slug, which has been associated anecdotally with *Russula* fungi – the slender slug *Malacolimax tenellus*. This is a species of conservation concern and there is a need for up-to-date information to advise the conservation agencies on best management practice.

Kerney (1999) states that this species is restricted to ancient deciduous or coniferous woodlands, occasionally on chalk or limestone, but more commonly on poor acid soils. It is mainly found in ground litter, on logs and loose bark, emerging usually at night to feed, typically on fungi. It can live in a wide variety of woods including beech, oak, chestnut and pine, and tolerates traditional methods of management such as pollarding and coppicing. The species appears to be widely distributed in Britain but absent from Ireland. Over thirty sites in central and eastern Scotland have yielded records but many of these records are now more than 50 years old without the sites having been revisited.

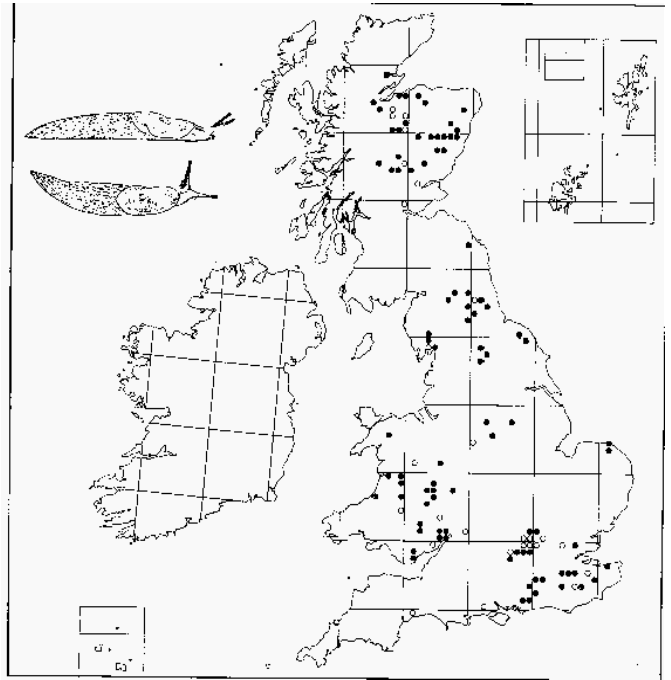
There is much anecdotal information on the species' autecology, such as the best time of year to search and its association with *Russula* species. The records would seem to indicate that this slug is best searched for from late summer to late spring and it has been suggested that those attending fungus forays organised by mycological groups or local naturalist societies may help to identify *Malacolimax tenellus* sites (and also the slug's food fungus)! Evidence of slug damage is frequently encountered when foraging and once the cap cuticle has been eaten, exposing the pale flesh beneath, it is easier to spot the toadstool – and maybe home in on the culprit.



*Malacolimax tenellus* – photo Adrian Sumner

*Malacolimax tenellus* is a relatively easy slug to recognise. It grows to a maximum of 4cm (when extended) in length and has a short keel along the back. The body colour is predominantly yellow, ranging from pale yellow to orange, and the sole is pale yellow. The head is grey/lilac and the tentacles are usually a distinctive bluish-grey or purple tinged. The body slime is yellow-coloured, not thick and sticky, and which may be produced copiously if the slug is handled. As with all

limacid species the pneumostome (breathing pore) is located rear of the mantle mid-point, and on this basis, it may be separated from orange/yellow coloured arionid species. Those wishing to assist in this survey are advised against collecting and preserving specimens - the best way of having your identification confirmed is to take a photograph or a digital image.



Distribution map of *Malacolimax tenellus*. Reproduced from Kerney, M (1999). *Atlas of the Land and Freshwater Molluscs of Britain and Ireland* © The Conchological Society of Great Britain and Ireland

Basic distributional information is clearly the first step in this project. However, more detailed information recording would provide much added value for the greater understanding of the ecology of the species. In particular, details of the trees present, the ground habitat and flora, fungi species present, the precise habitat in which the species was found, and any details of the woodland management practice.

An information/recording sheet and details of historical sites or suggestions of potential sites can be provided. The Conchological Society will be setting up a web page which will be regularly updated.

Anyone interested in participating in this project should contact the Project Co-coordinator:

Liz Biles, Burton Farm House,  
Burton, Mere, Warminster, Wilts BA12 6BR  
Email: [Auriscalpium@aol.com](mailto:Auriscalpium@aol.com)

## Notes from the Chair

This issue contains three new surveys for members to take part in. I am delighted to be able to contribute personally to at least one of these, the turtle watch, because a massive leather-back turtle came ashore back in January this year only a few miles along the coast from where I live. I was not the person to find

it and it had already been stranded for several days before I got there, when the gulls had finished it off finally, removing all the soft parts of the head. I noticed that one of the hind flippers had serious lesions, which might have been the reason why the creature sought out the shore – with fatal results. Marine turtles are occurring more regularly in our waters, but this was the first time I had seen one outside a museum. I have here reproduced two of the photos I took).



Recently dead leather back turtle between Crail and Anstruther being examined by a passer-by 27 January 2004 - photos Anne-Marie Smout



Thank you to all who have renewed your subscription to BRISC – and if you have not done so already, please do so forthwith. Thank you also to everyone who agreed to receive the newsletter electronically. This has several advantages – it allows the reader to see all photos and graphs in colour, and it reduces the cost to BRISC of printing and posting. For those who still prefer to receive the printed version by post, past issues of *Recorder News* – in colour – can be viewed and downloaded from our website at [www.brisc.org.uk](http://www.brisc.org.uk)

An important event this spring was the launch of Scottish Biodiversity Strategy (SBS) on 25 May at Murrayfield in Edinburgh, being the culmination of three years work by members of the Scottish Biodiversity Forum and the Scottish Executive. The meat in the strategy, however, comes with the implementation plans. These are now out for consultation till 30 August 2004 and BRISC will be working with Scottish Environment LINK to prepare a joint response. The plans are available from the SBF Secretariat, SEERAD, Mail Point 14, Area 1-J (South), Victoria Quay, EH6 6QQ or can be viewed and downloaded from [www.scotland.gov.uk/biodiversity](http://www.scotland.gov.uk/biodiversity)

As I write, news is just in that the Nature Conservation (Scotland) Act 2004 has received Royal Assent and will come into effect later this year, having been passed unanimously by the Scottish Parliament earlier this year. This new legislation represents a very significant step forward for nature conservation in Scotland. The legislation will, for the first time, make it ‘the duty of every public body and office-holder, in exercising any functions, to further the conservation of biodiversity so far as is consistent with the proper exercise of those functions’, and secondly that ‘such a body or office holder must have regard to (a) any strategy under section 2/1 [i.e. the SBS] and (b) the United Nations Environmental Programme convention of Biological Diversity of 5 June 1992 as amended from time to time’. The act can be obtained from HMSO or can be downloaded from <http://www.scotland-legislation.hmso.gov.uk/legislation/scotland/s-acts.htm>

As regards BRISC’s own work, recording and encouraging more people to become involved is now a top priority, as agreed at the AGM. To this end, BRISC committee organised a field day at Cullaloe on 19 June. Unfortunately the rain came down in torrents, which probably put many people off. The event is covered elsewhere in this issue.

Consequently, Alan Cameron, BRISC Development Officer, will spend the majority of his time working on developing projects focused on recording, and also on a membership drive. However, there will also be some training events for Local Records Centre staff, kicking off with a day on new revamped NBN Gateway on 26 August. The new design was launched and demonstrated at an event in London on 8 June, and it is a huge improvement. To test it out for yourself, go to <http://www.nbn.org.uk> and click on ‘Gateway’.

The next few months will be prime time for visiting the countryside, hopefully collecting a lot of records and, undoubtedly, a number of unwanted ticks in the process. All recorders will be only too familiar with those wretched little creatures, which seem to get everywhere. Bracken and long grass is particularly rich in them, and it is unusual for me to come home after a trip without one or two having somehow made their way through my clothing. It is therefore timely to remind people that ticks can carry a nasty disease. For a full description and how to deal with this issue can be found at [http://www.amm.co.uk/pubs/fa\\_lyme.htm](http://www.amm.co.uk/pubs/fa_lyme.htm)

On a more cheerful note, ‘*The fungi trail*’, a colourful and attractive key to commoner fungi, has been produced by Liz Holden, organiser of the Grampian Fungus Group, with some really great illustrations by Kath Hamper. It comes laminated, is aimed at children and other novices, and costs £3.25 (p+p extra) from The Field Studies Council Publications, Preston Montford, Montford Bridge, Shrewsbury, Shropshire SY4 1HW, Tel 01743 852101 or email [publications@field-studies-council.org](mailto:publications@field-studies-council.org)

Anne-Marie Smout

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**Secret Wildlife: Recording the Urban Environment**  
**CONFERENCE REPORT**  
**(Continued from April 2004 Issue no 53)**

**Urban Greenspaces - where the wild things are?**

Scott Ferguson,  
SNH Advisory Officer, Settlements Group

While urban greenspace is made up of many different kinds of space, performing a range of functions, they all have one thing in common – they provide space for wildlife in a crowded environment. They are also the places where most people in Scotland come face-to-face with nature – from the playground bug-hunt to the glimpse of a kingfisher on the canal towpath. It is vital then that urban greenspace is planned and managed with both people and wildlife in mind. SNH is involved in a number of projects that aim to improve the quantity and quality of greenspaces in Scotland.

The Scottish Biodiversity Strategy, launched on 25 May this year, puts the links between people and wildlife at its core. An associated draft Urban Implementation plan, produced by the Scottish Biodiversity Forum, is currently the subject of wider consultation. SNH will be closely involved in the further development and implementation of this plan. It is vital that the plan encourages improved integration of biodiversity conservation into the planning and management of our urban spaces, and promotes opportunities for first hand experience of the wildlife on people's doorsteps.

SNH established the Greenspace for Communities Initiative (GfCI) as a key focus for its work in urban areas in 2002. GfCI created Greenspace Scotland, a new federation of local greenspace partnerships, to support new national programmes of greenspace improvement, encourage increased community involvement in greenspace planning and management, and to champion the greenspace vision at a national level. The Initiative has got off to a flying start, with the founding members of Greenspace Scotland<sup>2</sup> joined by new local partnerships in Inverness, Fife, and Dumfries and Galloway, as well as a range of new national partners.

While it is important that all greenspaces contribute to the wider green network, it is also vital that the best sites are protected and improved. SNH continues to support and encourage Local Authorities in the designation of Local Nature Reserves close to where people live. These flagship sites for urban biodiversity have an important role in raising awareness of the rich variety of wildlife that can be encouraged into our towns and cities.

SNH also recognises that it cannot achieve these goals alone. If we are to better connect urban communities with the wildlife around them we need to work with those organisations that have the local networks and skills that help link people and

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<sup>2</sup> Founder Members of Greenspace Scotland are Aberdeen Countryside Project, Central Scotland Forest Trust, Edinburgh Green Belt Trust and the Glasgow and Clyde Valley Greenspace Trust.

place. Organisations like BTCV Scotland, Scottish Wildlife Trust, and BRISC, which actively involve people in projects to raise awareness of, and improve, urban wild space, are a major driving force for change in the urban landscape.

It is our hope that we will progress towards Scottish towns and cities in which an accessible network of greenspace is seen as an essential element of urban living, improving people's quality of life and creating the places where the wild things are.

**Urban water – a neglected freshwater habitat**

Craig Macadam  
National Ephemeroptera Recording Scheme Officer

The thought of tackling a new group, not to mention a whole new ecosystem, often fills the enthusiast with horror. However freshwater invertebrates can be found all around us and there are numerous keys and field guides available to suit all abilities.

I first began studying aquatic invertebrates at the age of 10. I would collect freshwater shrimps (*Gammarus* sp.) from a local stream and keep them in any available container to study them. This used to drive my mother daft because she found that her pans, jars and plastic containers had disappeared to the outhouse!

Since then I have studied freshwater invertebrates, particularly mayflies (Ephemeroptera) and stoneflies (Plecoptera) throughout the UK. As national recorder for Ephemeroptera I am acutely aware of the problems of 'white holes' - areas where no recording has ever been undertaken. Understandably, many of these holes are in remote areas; however, it always surprises me that further holes are found around most urban areas.

Urban areas are rich in aquatic habitats. Our reliance on water for drinking, cooking and industry means that most, if not all, cities and towns in Scotland are built alongside a major watercourse. For example, Aberdeen is built on the Dee and the Don - two of the biggest rivers in North-east Scotland. Work I have been involved in on the River Don has identified 65 different invertebrate species, including *Brachyptera putata* - a nationally notable stonefly.

While larger watercourses such as the River Don are the obvious aquatic habitats in urban areas, there are many smaller watercourses that have the potential to yield good records. Unfortunately, many of these streams have undergone decades of abuse, either through pollution or culverting. Nevertheless there are still stretches of open, clean water in most towns, even though it may take some detective work and scrambling through brambles to find them!

Where urban areas really come into their own is with standing waters. Apart from the odd urban loch (Linlithgow for example) we are not talking about huge expanses of water. The typical urban pond is small, perhaps a couple of metres across, and usually teeming with.....litter. If you can sift through the bottles, cans and crisp packets you can, however,

be rewarded with mayflies, snails, beetles, bugs, and a whole host of other invertebrate life.

While many urban ponds have been lost to development or neglect, recent initiatives such as 'Ponds for People' and the LBAP process have resulted in resurgence in interest for ponds. Wildlife ponds have sprung up in many parks, and many private gardens now boast a water feature of some sort. You may think that ornamental fountains and waterfalls will not hold much of interest, but these fish-free habitats are excellent for water-fleas and non-biting midge larvae. In larger, municipal fountains and birdbaths you can often find beetles, bugs and snails as well.

Do you know where your town's curling pond is? At one time every town would have their own curling rink. Sadly, many of these have silted up but where they still exist they hold a wonderful variety of animals and plants.

Almost any urban standing water will hold invertebrates - from blocked gutters (a favourite for true-flies) to garden ponds (mayflies) to the marshy area at the bottom of the park (snails and some stoneflies) or the garden pond (caddisflies, beetles, etc.). Next time you walk past a birdbath or fountain, have a quick look under the surface – you will be amazed by what you find!

## Going Batty in Scotland

Anne Youngman

Scottish Bat Officer, Bat Conservation Trust

Bats fit very well under the conference's label 'secret wildlife; emerging between sunset and sunrise, they are rarely seen and their high pitched echolocation calls are usually beyond the range of human ears. Even when bat surveyors deliberately look for roosting bats they are frequently disappointed, as bats tend to tuck themselves away into tiny nooks and crannies well out of sight. Occasionally a small pile of bat droppings is the only consolation for surveyors, being some proof that bats are about.



“fu” designs on silk and pottery (photo – Anne Youngman)

In our culture bats tend to be linked with witchcraft, Halloween and other dark or evil subjects, or to scatter-brained people. This negative image makes bat conservation that little bit

harder: perhaps if they were called night faeries, attitudes would change? In China bats are considered omens of good fortune. The word for bat and the word for happiness (“Fu”) sound exactly the same and bat designs are used as good luck symbols. (Look on Chinese pottery and silks for 5 bats, each representing one of the greatest blessings: health, long life, virtue, wealth and a peaceful death.).

Worldwide, bats feed on a great variety of different foodstuffs including; fruit, pollen, nectar, fish, insects, blood, and even smaller bats! All our UK species are insectivores. Our tiniest bat, the pipistrelle, can eat around 3000 midges per night. It is the availability (or otherwise) of insect food that influences the yearly life cycle of our bats.

During winter, when insect food is very scarce, bats tuck themselves away into cold, humid places and hibernate. Exactly where they hibernate is a mystery to us, as bats are very difficult to locate and very few hibernation sites are known. This has obvious implications for bat conservation; hibernation sites that are not recognised as such may be damaged or disturbed. This may lead to the loss of such sites and or disturbance to the bats themselves.

The bats spend winter living off fat reserves laid down in autumn. Bat hibernation is not a steady state and bats will wake up, stretch their wings and sometimes move to other sites before becoming torpid again.

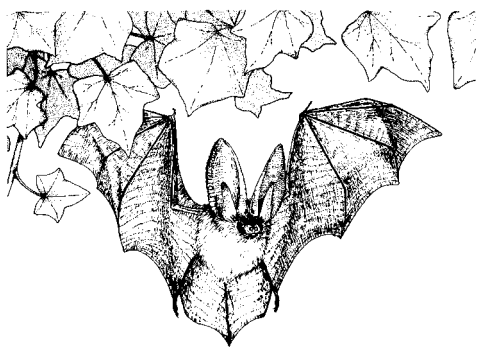
In spring, the periods of torpor reduce and bats (along with flowers, birds, insects and other signs of hope returning) start making more of an appearance. Once the females have regained body weight and are in good condition they release sperm they have stored inside themselves from the previous autumn and become pregnant. They then search out suitably cosy places to use as maternity roosts. Females are faithful to their roosts and will return year after year to the roost in which they were born in order to give birth to their own baby. If for any reason this roost is unavailable (tree roosts may have fallen down, house roosts become blocked or demolished) they face the problem of finding a new roost with suitable conditions. Bats do not build nests; females snuggle together for warmth both before and after the babies are born. The number of bats in a maternity roost varies according to species, ranging from an average of 40 for brown long-eared bats to 500 for the 55kHz pipistrelle (*Pipistrellus pygmaeus*).

Males will also re-visit the same roosting places but for them the warmth of a maternity roost is not essential. Males are usually found only in small numbers.

Bats will roost in natural structures, for example trees and caves, and in man-made structures such as buildings, tunnels and bridges. They may use all of these at different times of year. It is usually only when they cause problems (too much bat chat, smell, and mess from droppings) that they get noticed. Inevitably this means that roosts in houses, schools and hospitals are identified, but roosts in trees, bridges and tunnels often go unnoticed. In most cases the roosts that are noticed and the ones usually causing problems are maternity roosts.

The young bats, one per female, are born around mid-summer, and within six weeks are weaned and independent of their

mothers. The first year of a bat's life is pretty tough, it has to learn to fly, echo-locate, get fat enough to survive hibernation, and find a suitable hibernation site, as well as avoid predators if it is to see the spring. Many young bats do not manage this, particularly if their first summer is cold and wet (does that sound like Scotland?). For bats that do make it, they can probably look forward to a long life. Life expectancy for pipistrelles is believed to be around 15 years and for brown long-eared around 30.



Brown long-eared bat - sketch by Joan Childs

Bats have few predators. Bat skulls have been found occasionally in owl pellets, and domestic cats are often a problem at bat roosts, but there are not many others. However, bat numbers have declined alarmingly over the last 100 years. Concern over the decline has led to all UK bats and their roosts receiving legal protection.

The main reason for the decline has been the intensification of agriculture, changes in forestry management and the general pressure of development. In the past timber treatment using highly toxic chemicals (lindane and dieldrin) led to the loss of whole colonies of bats.

Good bat habitat contains water, woodlands and wildflowers. Ideally these should be unpolluted, of mixed age and native species respectively. This combination supports a varied insect population and therefore a healthy diet for bats. Tree lines and riparian woodland provide not only good feeding but commuter routes for bats, who do not like crossing wide open spaces. It is possible that, as the countryside becomes more intensively farmed, the best remaining habitat for bats will be gardens and parks, and we will see the equivalent of the urban fox, i.e. country bats heading into town (where the night life is better.)

Promoting bat conservation relies not only on encouraging a more positive attitude towards bats but also on having reliable information on population trends. The Bat Conservation Trust runs a series of volunteer bat surveys as part of the National Bat Monitoring Programme (NBMP). This programme was established in 1996 and is used as a model of good practice for wildlife surveys.

Surveys run throughout the year and vary in terms of difficulty and technical expertise. Basically there is something to suit everyone with an interest in bats; from the very beginner who would like to watch bats from a deck chair, to bat boffins craving almost 'action man' adventures. To find out more about the NBMP look up the BCT website, [www.bats.org.uk](http://www.bats.org.uk).

**The next survey (an easy one) is the Sunrise survey around 24 July.** The aim of the survey is to locate roosts by watching for swarming bats outside the roost entrance. If you have a suspicion that somewhere is used as a summer roost this is the best way to confirm it. No specialist equipment is needed (other than an alarm clock) though if you have a bat detector, the sound of bats certainly adds to the enjoyment and spectacle of the occasion. The hardest part of the whole thing is getting up an hour before sunrise (the further north you go the greater the effort involved!). For those who do not see any bats, there are other compensations associated with the early morning; for example the heady smell of trees and flowers, the sound of the dawn chorus, the beautiful colours of the sunrise and often glimpses of other 'secret wildlife' such as foxes, otters and hedgehogs.

Bats do need our help, and getting involved in the NBMP is an excellent way of making a real contribution to bat conservation, of having fun and of meeting like-minded batty – people. Remember the Chinese; if you are batty you are happy.



Bat detecting – Inverness bat group on a night out (photo Anne Youngman)

## Report:

### BRISC RECORDERS DAY AT CULLALOE

The first BRISC recorders' day was a great success, despite the weather. Five intrepid explorers braved the downpours at Cullaloe Reserve in Fife. The day began with a fascinating insight into the history of this Scottish Wildlife Trust reserve provided by David Jamieson, convenor of the Cullaloe Reserve for the local SWT members' centre. The group then set off into the wild to record anything that moved!

First stop was the willow hide above the old reservoir. Here we were greeted with the sight of sand martins feeding over the water and the sound of chiff-chaffs and willow warblers. A pair of shelduck were said to be breeding here, but they kept out of sight. Sweeping the vegetation produced some interesting bark lice and two Nemourid stoneflies. As we walked along the path, we could not help but notice the chimney sweeper moths flitting between the grass at either side. As the day progressed we saw 40-50 of these day-flying moths, more than I can recall from anywhere else.

Our next stop was the outfall of the old reservoir. Here there was a beautiful display of ragged robin and water forget-me-not, together with wild strawberries alongside the path. Below the surface of the water there were water boatmen (Corixidae)

and backswimmers (Notonectidae), water slaters (*Asellus aquaticus*), flatworms (Planariidae) and non-biting midges (Chironomidae). Sweeping the vegetation here was particularly successful, capturing a common blue butterfly (*Polyommatus icarus*) and a ringlet (*Aphantopus hyperantus*), together with a female large red damselfly (*Pyrrosoma nymphula*). Other catches included various true-bugs, beetles and aphids.

The group walked on through the now soaking vegetation, stopping to examine red campion (*Silene dioica*), early purple orchids (*Orchis mascula*) and slugs (*Arion ater*) along the way. Towards the end of the path we found some rather subdued grasshoppers which we later identified as the common field grasshopper (*Chorthippus brunneus*) and common green grasshopper (*Omocestus viridulus*).



Common Green Grasshopper – photo Craig Macadam

As the path started to disappear we decided to head back to the car park for a bite to eat and a look at the lower pools. On our way back, the sun broke through the clouds for a brief moment and the hillside was transformed into a fluttering mass of ringlet butterflies.



Ringlet – photo Craig Macadam

The lower pools were formed from the old filter beds and now have luxuriant vegetation. Pond netting revealed a population of sticklebacks (*Gasterosteus aculeatus*) and numerous toad tadpoles (*Bufo* sp.). Invertebrates included the wandering snail (*Lymnaea peregra*), water slaters (*Asellus aquaticus*), water fleas (*Daphnia* sp.), freshwater shrimps (*Gammarus* sp.), sludge worms (*Tubifex* sp.), flatworms (Planariidae) and caddisfly larvae (*Limnephilus* sp.). For me, perhaps the most interesting discovery was *Serratella ignita* - a mayfly normally associated with running water, suggesting that there is a reasonable flow through these pools.

While here a great-spotted woodpecker landed near a small tree, probably intent on ‘ant-ing’, while common white throats and reed buntings were singing, and a buzzard circling above.

All in all it was a great day despite the atrocious weather. I can not wait for the next year’s event. A species list for the day will be forwarded to FERN and SWT.

Craig Macadam

## BOOK REVIEWS

**Kruuk, H. (2003). *Niko’s Nature*. Oxford University Press, Oxford.**

**ISBN: 0-19-851558-8; hbk. £20.00.**

This is the biography of a Dutch scientist, Niko Tinbergen, who forged a link between the observation of animals in the wild and long-term research on their behaviour. The science is called ethology and Tinbergen received the Nobel Prize for his seminal contribution, jointly with Konrad Lorenz, author of *King Solomon’s Ring* (1952), and Karl von Frisch, who studied communication between honeybees. The book is written by one of Tinbergen’s students, a close friend who shared with the ‘maestro’ the twin experiences of both a Dutch upbringing and subsequent move to Britain. The result is a biography of extraordinary depth and insight from a uniquely intimate perspective, yet not without some blunt-speaking criticism. I highly recommend it.

However, it is a long book of 345 pages of text (liberally enlivened by lots of photographs and Niko’s own drawing) and 46 pages of notes and document sources, Tinbergen’s publications from 1923 to 1989, an index of proper names and an index of subjects. On the back cover, Richard Dawkins (one of Tinbergen’s students) is quoted as saying that he “started reading and couldn’t stop” which did not hold for me; there are chapters where the subject is so complex, refreshment breaks are essential. Indeed I sometimes wonder whether one ought to read a biography of this kind straight through; repeated information can be recognised too easily (which more fragmented reading might forget), such as Tinbergen insisting on no pets being kept by the family as this would hamper objective appraisal of their behaviour.

The ‘no pets’ injunction was a crucial concomitant of Tinbergen’s approach to *Ethology: the objective study of behaviour*. This is the heading of Chapter I of *The Study of Instinct* (1951), Tinbergen’s classic book published shortly after he had moved from a professorship at Leiden to Oxford. Initially, in his newly adopted university, he held the position of ‘Lecturer in Behaviour’, as stated on the fly-leaf of the copy I bought at that time, although eventually he became a professor and had the zoology building named after him. Thus there is some retrospective sadness half a century later to read again this initially fairly lowly position and Oxford taking credit as it were, after his earlier higher standing in Holland. Most of us zoology students who heard him give his first series of lectures, had little understanding of Tinbergen’s earlier years of research, his incarceration as a ‘hostage’ during World War II and that *The Study of Instinct* had been written before he

came to Oxford, nor much else that this excellent biography reveals. Extraordinary too - because in the long run it seems not to have been important - is Hans Kruuk's uncovering of how much of Tinbergen's classic studies, such as on stickleback and hunting wasps, were actually rather poor science and unable to be replicated. There are also deeply moving passages, such as when Tinbergen and Lorenz met again in 1949 at a Cambridge symposium arranged by Bill Thorpe. During the war, Lorenz was pro-Nazi, had been drafted into military service as a psychologist and in 1944 medical officer to the Russian front, where he was taken prisoner. Nevertheless, with wounds still raw, Tinbergen totally forgave: "the old friendship was still there". The book also includes much about Tinbergen's PhD students and the elevated positions that many later came to hold (including some well known through their books and/or television, such as Desmond Morris and Aubrey Manning); also the key role that forgotten greats such as Alistair Hardy, in the days when there was only one Professor of Zoology in Oxford, played in bringing Tinbergen to Britain.

In 1963, Tinbergen published a pivotal paper dedicated to Lorenz entitled *Aims and methods of ethology*. In it he enunciated four questions, later etched into science history as 'Tinbergen's four whys'. In brief, they are: (i) *causation*: what is the animal's physiological state and external stimuli at the time that the behaviour is taking place? (ii) *ontogeny*: why and how did the animal develop the behaviour and what are the genetic factors involved? (iii) *function*: what is the biological purpose of the behaviour? and (iv) *evolution*: why has a particular behaviour evolved in a species? A key central part of the book is devoted to explaining the four whys and their importance in providing a cohesive structure for research on animal behaviour.

However, as an outsider looking in on ethology, each of the four whys seems to contain a nest of further questions and there are other problems about understanding the science of this remarkable naturalist. For example, perhaps in part because Kruuk himself is so steeped in the intricacies of ethological dialectics, it is a challenge to understand the difference between ethology and the study of animal behaviour; or the subtle distinction between instinctive and learnt behaviour. And I have yet to understand fully the debate that at times put at risk the old friendship between Tinbergen and Lorenz; much easier that they were very different in character, the former reclusive and low-key; the latter flamboyant and egocentric - Lorenz's Oxford lectures were like fireworks! Kruuk writes that it was Lorenz's ideas that started the systematic study of ethology because he it was who first showed that one can classify animal behaviour into separate units and that these units could evolve like organs. But that said, if one conclusion from the book stands out more than anything else, it is that Tinbergen pioneered behavioural studies of wild animals, birds particularly but also many other species of very different phyla such as insects, publishing the results in a form which respected scientists in other fields could recognise as of high scientific calibre. This was novel in that so much research on behaviour before Tinbergen and Lorenz, studied animals in cages or in specially designed apparatus such as a maze. Niko liberated behavioural scientists to the

outdoors and when one thinks of what has been achieved, say in the study of primates in the wild in the past forty years, the debt owed to him is huge.

Read the book to learn about much else that a short review of a long life can do no more than list: his brothers, one of whom also became a Nobel laureate; his student years and life-changing visit to Greenland; his loving wife and family, illnesses, dislike of anything deemed a waste of time when in the field; photography and film-making and numerous lecturing trips around the world. However, although it is well written and each chapter flows along readily enough, this is a biography that needs consistent effort to digest and maybe that is why Dawkins could not put it down.

Thomas Huxley

**Reid, J.R., Evans, G.H., & Northridge, S.P. (compilers and eds). (2003). *Atlas of Cetacean Distribution in North-west European Waters*. Joint Nature Conservation Committee. ISBN 1-86107-550-2. Pbk £17+£4 delivery from NHBS ([www.nhbs.com](http://www.nhbs.com)), or downloadable from [www.jncc.gov.uk/Publications/cetaceanatlas/](http://www.jncc.gov.uk/Publications/cetaceanatlas/)**

This atlas provides what is undoubtedly the most comprehensive account of the distribution of the 25 species of whale and dolphin that are known to occur in (progressing from east to west) the Kattegat and the Skagerrak, the North Sea, the Channel, and the Northeast Atlantic (as far west as 24°W and as far north as 64°N). It is a visualisation of the data that is maintained by the UK's Joint Nature Conservation Committee (JNCC) in its Joint Cetacean Database. That database includes information from dedicated surveys for cetaceans (such as the 1994 SCANS - 'Small Cetacean Abundance in the North Sea' - survey), information collected by members of JNCC's own Seabirds at Sea Team and sister organizations in the rest of Europe during their surveys, and by volunteers working for a number of different NGOs, most notably the Oxford-based SeaWatch Foundation. I have a good idea of the magnitude of the work involved in compiling this database because, over the last five years, I have watched one of the editors slaving away at it in an office just down the corridor from mine!

The result is spectacular. Not only do you get maps showing the numbers of each species sighted per hour of observation effort in each 30'x30' square, but these sighting rates have been corrected for the effect of weather conditions on the probability of sighting a cetacean. In addition, the sightings have been overlaid on a map of observation effort so that it is easy to understand why there have been relatively few sightings of deep water species like the sperm whale. In addition, each map is accompanied by a species account, which includes some - generally very good - colour photographs and a description of its general biology, and its global, North Atlantic and European distribution.

However, I do have a few words of warning: this is not a guide to good places to watch for cetaceans, although it will help you decide when it will be worthwhile to venture out onto the deck of a car ferry to look for cetaceans and when it would be more sensible to stay inside (any time and anywhere in the southern

North Sea!). Nor is it a survey of the abundance or conservation status of the different species in western Europe. The only reliable estimates of abundance have come from a small number of dedicated surveys, and then only for a few of the more numerous species (minke whale, short-beaked common dolphin, white-beaked and Atlantic white-sided dolphins, and harbour porpoise) and for some local populations of common bottlenose dolphins. However, you may be surprised by some of these estimates: for example there are probably around 10,000 minke whales and 300,000 harbour porpoises in the North Sea during the summer, whereas the total North Sea population of the much more familiar bottlenose dolphin may only be a few hundred individuals.

Overall, the Atlas is tremendous value for money and a dramatic demonstration of how data from professional and amateur observers can be combined to provide comprehensive and reliable information on wildlife distribution, even for species as elusive as the harbour porpoise!

John Harwood,  
NERC Sea Mammal Research Unit,  
University of St Andrews.

**Elkins, N., Reid, J.R., Brown, A.W., Robertson, D.R. & Smout, A-M. (eds) (2003). *The Fife Bird Atlas*. Published by the Fife Ornithological Atlas Group. ISBN 0-9539324-2-7 hbk £25 (p+p extra). Available from Norman Elkins on 01334 654348 or E-mail [jandnelkins@rapidial.co.uk](mailto:jandnelkins@rapidial.co.uk)**

The recent publication of the Fife Bird Atlas has now brought the total number of local bird atlases for breeding and non-breeding birds in the UK to a rather surprising two. The only other year round atlas covered Northeast Scotland and was published in 1990. However, when one reads the methods chapter in the rather diverse introduction of this book one realises why. This atlas represents the end point of a tremendous amount of survey work, analysis and, by no means least, editing and production. That this has been largely by amateurs in their own time makes the achievement all the greater.

One of the greatest resources to conservation in the UK is the huge army of volunteer bird workers that have produced a baseline knowledge of our birds which is quite staggering. Everything that is known about the distribution and populations of West African birds would probably fit within the 364 pages of the Fife Bird Atlas, an area some 5,600 times larger than Fife!

The introductory chapters discuss geology, climate, habitats, and migration, as well as the methods used to collect, collate and analyse the information. This is followed by the accounts for some 213 species. These accounts are based on the fieldwork conducted over the period 1991 - 1999 and the data was collected using either tetrads (2km squares) for breeding surveys or 5km squares (based on the national grid 10km square) for year round surveys. In addition other surveys and publications (e.g. Common Bird Census, Fife Bird Report) were used whenever it was possible to assign the data to a tetrad or 5km square. The space devoted to each species varies

depending upon its status. Resident breeding birds and birds wintering in large numbers (e.g. geese) mostly have two pages devoted to distribution and status. Species that do not regularly breed are given a little less space, those that only appear in small numbers in winter a little less still and those species that occurred only rarely (though more than 10 times) are given a few short paragraphs. This makes perfect sense, as it is the common birds that are of primary interest in a publication such as this, though less common species that have undergone population changes are rightly given relatively more space.

Each species account is laid out in a very similar manner, with maps of breeding and non-breeding distribution, table of breeding statistics by tetrad, and often, for some species, graphs of changes in abundance at important sites with time. The text accompanying each account gives a brief introduction to the species, puts the Fife birds into context of Scottish, UK or even international populations, describes the locations and changes of numbers over time and often gives useful pointers for future work.

Two of the most valuable sections are to be found in the Appendix: a summary table of each species breeding and/or wintering populations and their status in Fife; and a summary of the breeding tetrad data which is used in creating the maps. Thus the raw data, from which the analysis in each account is derived, are there to be perused as well.

The layout and discussion in this atlas is both sensible and accessible. The reader is taken through a logical progression both within each chapter and across the book as a whole. It is obviously not a book to be read cover to cover, but a fabulous book to dip into. It also has a more serious purpose as a reference text that will be of considerable use for conservation in Fife. The fieldworks, authors and editors should all be justly proud of their achievement.

It is very hard to find anything negative to say about this book. Perhaps the production value is a little low. Some of the artwork has not been reproduced particularly well, although the artwork is largely excellent in itself. However, this does seem rather mean given this many pages stuffed with this much information for only £25. I would heartily recommend anyone with an interest in the birds of Fife to try and snap up one of the 500 issues before they are sold out.

Ross McGregor  
School of Biology, University of St Andrews

**DEADLINE - 20 September 2004**

for the next issue of *BRISC Recorder News*

All material – preferably in electronic format to

Anne-Marie Smout, [amsmout@aol.com](mailto:amsmout@aol.com) or tel 01333 310330

## Local Records Centre News and Updates

*[This LRC page is s a new feature, which it is hoped to carry regularly in future issues. ed]*

### Dumfries & Galloway Environmental Resources Centre

Early days in the establishment of this new LRC.

An important activity is raising awareness and the profile of the new Centre amongst recorders and within the various offices of partner organisations, potential future users and collaborators. A recorders forum and an e-group

([www.smartgroups.com/groups/bridge](http://www.smartgroups.com/groups/bridge)) have been established for sharing information on recording, events, training opportunities etc in the region. There are some technical issues still to be resolve, including working with the Council's GIS (they use MapInfo, whereas the Centre uses ArcView), and organising OS licensing. Due to policy changes in Landfill Tax distribution, there is also an unexpected shortfall in income for next year, which creates a pressing need to explore alternative funding sources.

### Fife Environmental Recording Network (FERN)

FERN have moved! In June FERN moved building and Service within Fife Council, and are now based within Environmental Services, allowing them to make closer links with the broad range of environmental activities and actions happening across Fife. FERN have also been involved in a wide range of projects over the last year. December saw the launch of the excellent *Fife Bird Atlas*, for which FERN managed the data and produced the maps<sup>3</sup>. FERN are continuing to help their local recorders in the production of publications, and are involved in the development of several atlas projects this year. Concerning the wider environment, FERN play an important role within the 'Take a Pride in Fife' campaign, managing measure and milestone information for the 'Take a Pride in Fife' strategy, and producing the 'State of the Environment' annual update. Developing a web presence at [www.fifedirect.org.uk/FERN](http://www.fifedirect.org.uk/FERN) is another aspect of the work that FERN will be focusing on this year. This includes plans to make all of FERN's publications, such as the yearly booklet 'Fife Wildlife Recorder', available for downloading, and later this year you will be able to search the 'Nature of Fife' pages for information on Fife's species. FERN will also use the website to publicise the six FERN events taking place this year. You can find their new address on their website.

### Glasgow Museum Biological Records Centre

Work on the species database continues in Glasgow, now including the development of data holdings for East Dunbartonshire. Data management is also being undertaken under contract at Paisley Museum, with which an informal partnership has been established. The main demands for services come from Renfrewshire and East Dunbartonshire, with some demand from Glasgow City centre developers and from local naturalists.

### Orkney Biodiversity Records Centre

A three-year business plan for the LRC is under preparation, which will aim to strengthen the service substantially by increasing staff resources to at least a part-time manager and a full-time technician. The Centre is working on building a better understanding of the needs of Orkney Islands Council Planning Service and SEPA. The Centre is also planning for a major technical upgrade, which comprises installing a powerful workstation, GIS (ArcView 9, ArcView 3D Analyst), A1 Plotter, and some programming of Recorder 2002 to deliver high quality tailored reports. The plan is to have this completed by Christmas.

### Scottish Borders Biological Records Centre (SBBRC)

SBBRC has recently installed a new server. A 3-year Development Plan earlier was submitted earlier in the year to the Council for approval. A pilot project is routinely to screen all the planning lists through a preliminary filter – this is to tie in with the new 'biodiversity duty' in the forthcoming Nature Conservation (Scotland) Act. SBBRC has launched a public involvement garden survey: 'Borders Backyard Biodiversity'. SBBRC has also prepared an outdoor education project pack and sent this out to 14 schools. Around 150 copies of the 'Scottish Borders provisional butterfly atlas' have been produced and distributed. The centre has run field and indoor training events and now provides support for a separately constituted 'Recorders Group' with around 100 members. SBBRC is currently digitising SWT Wildlife Site boundaries and is proposing to take over Wildlife Sites assessments.

### Ayrshire Biological Records Centre

We are seeking funding for letting a contract to carry out development planning. This will include devising a costed framework within which the Ayrshire Biological Record Centre will function sustainable. Other elements of the project include assessing the existing data holdings, identifying users and their requirements, locating new data sources, recommending funding mechanisms, and capturing SNH data.

### North Lanarkshire BRC

Joint planning with South Lanarkshire has been dropped. The Centre is waiting for a clearer national lead before building on the considerable amount of local planning work that has already been done. The Centre is preparing an internal (Council) paper on meeting the increasing demand for environmental information resulting from the Scottish Biodiversity Strategy, the Nature Conservation (Scotland) Act, and the Freedom of Information Act.

#### How to contact BRISC:

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Email [brisc@btcv.org.uk](mailto:brisc@btcv.org.uk)**

<sup>3</sup> See also review of this publication elsewhere in this issue -ed

CENTRE NAME	CONTACT	ADDRESS	TELEPHONE
<b>Local Records Centres providing information products and services</b>			
Dumfries & Galloway Environmental Resources Centre	Mark Pollitt	Solway Heritage, Campbell House, The Crichton, Bankend Road, Dumfries DG1 4ZB dgerc@solwayheritage.co.uk	01387 247-543
Fife Environmental Recording Network (FERN)	Julie Bett	Environmental Services, Fife Council, 6/7 Hanover Court, North Street, Glenrothes KY7 5SB <a href="mailto:Julie.Bett@fife.gov.uk">Julie.Bett@fife.gov.uk</a>	01592-413-793
Glasgow Museum Biological Records Centre	Richard Sutcliffe	Glasgow Museum Resource Centre, 200 Woodhead Road, South Nitshill Industrial Estate, Glasgow. G53 7NN <a href="mailto:richard.sutcliffe@cls.glasgow.gov.uk">richard.sutcliffe@cls.glasgow.gov.uk</a>	0141-276-9330
Lothian Wildlife Information Centre (LWIC)	Bob Saville	Suite 19, Leith Walk Business Centre, 130 Leith Walk, Edinburgh EH6 5DT info@lothianwildlife.co.uk	0131-554 -6360
North East Scotland Biological Records Centre	Lesley Cropper	Room E106/107, Aberdeen University, Hilton Campus, Hilton Drive, Aberdeen. AB24 4FA nesbrec@aberdeenshire.gov.uk	01224-273-633
Orkney Biodiversity Records Centre	Sydney Gauld	The Orkney Library and Archive, 44 Junction Road, Kirkwall, Orkney. KW15 1AG biodiversity@orkneylibrary.org.uk	01856-873-166
Scottish Borders Biological Records Centre (SBBRC)	Jon Mercer	Harestanes Visitor Centre, Jedburgh, Scottish Borders, TD8 6UQ jmercer@scotborders.gov.uk	01835-830-306
Shetland Biological Records Centre (SBRC)	Paul Harvey	Shetland Amenity Trust, Garthspool, Lerwick, ZE1 0NY <a href="mailto:sbrc@zetnet.co.uk">sbrc@zetnet.co.uk</a>	01595-694-688
<b>Centres for biological recording holding collections of records</b>			
Arran Biological Records Centre	Kate Sampson	NTS Brodick Country Park Isle of Arran KA27 8HY Ksampson@nts.org.uk	01770-302-462
Ayrshire Biological Records Centre	Gill Smart	c/o Scottish Wildlife Trust, Unit 5 Kyle Business Park, Cunninghame Road, Irvine, Ayrshire. KA12 8JJ <a href="mailto:gi1smart@ayroffice.freereserve.co.uk">gi1smart@ayroffice.freereserve.co.uk</a>	01294 279376
Inverness Museum Biological Records Centre	Jonathan Watt	Inverness Museum, Castle Wynd, Inverness IV2 3EQ <a href="mailto:jonathan.watt@highland.gov.uk">jonathan.watt@highland.gov.uk</a>	01463-237-114
Islay Wildlife Information Centre	Fiona MacGillivray	Main Street, Port Charlotte, Islay PA48 7TX <a href="mailto:inht@islaywildlife.freereserve.co.uk">inht@islaywildlife.freereserve.co.uk</a>	01496-850-288
NatureBase (Dundee Museum)	David Henderson	McManus Galleries, Albert Square, Dundee DD1 1DA david.henderson@dundeecity.gov.uk	01382-432 -069
North Lanarkshire BRC	Jenny Storey	Conservation and Greening Unit, Palacerigg House, Palacerigg Road, Cumbernauld, N Lanarkshire G67 3HU <a href="mailto:conservation@northlan.gov.uk">conservation@northlan.gov.uk</a>	01236-780-636
Perth Museum Biological Records Centre	Mark Simmons	Perth Museum & Art Gallery, 78 George Street, Perth PH1 5LB <a href="mailto:mjsimmons@pkc.gov.uk">mjsimmons@pkc.gov.uk</a>	01738-632-488
Renfrewshire Biological Records Centre	Jenny Gough	Paisley Museum & Art Galleries, High Street, Paisley, Renfrewshire. PA1 2BA museums.els@renfrewshire.gov.uk	0141-889-3151
Skye Environmental Centre	Gracie Yoxon	Lower Harapool, Broadford, Isle of Skye IV49 9AQ <a href="mailto:SEC@otter.org">SEC@otter.org</a>	01471-822-487
South Lanarkshire BRC	Ann McKillop	Chatelherault Country Park, Ferniegair, Hamilton ML3 7UE <a href="mailto:ann.mckillop@southlanarkshire.gov.uk">ann.mckillop@southlanarkshire.gov.uk</a>	01698-426-213