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RIVERFLY IDENTIFICATION AND SURVEY WORKSHOPS

Harnessing the knowledge of anglers for data contribution to
the national recording schemes

The angling community, natural custodians of the river
environment, is in the ideal position to monitor and survey
aquatic habitats by recording the natural insects that they aim
to imitate with artificial flies. A team comprising the
national recording officers of the Ephemeroptera (mayflies or

up-winged flies) and Trichoptera (caddis flies or sedges),
specialists from the Natural History Museum and The John
Spedan Lewis Trust for the Advancement of Natural Science
are spearheading an initiative to help anglers take action to
conserve the river environment. The collaboration, initiated
by a Natural History Museum / English Nature UK
Biodiversity partnership, aims to gain the data needed to
confirm the reported changing diversity in the riverflies of
the British Isles.

A series of structured workshops for anglers on
identification, monitoring and survey techniques of river flies
was launched in June 2002 at the Leckford Estate in
Hampshire. The workshop received enthusiastic feedback
from participants, who represented the Salmon & Trout
Association, The Wild Trout Trust and the Anglers
Conservation Association amongst others. The objective is
that workshop participants act as catalysts, conveying the
message that anglers can do valuable work monitoring their
rivers, and feeding back data to the national recording
schemes. The resulting long-term data on the distribution and
abundance of riverflies is critical to driving an effective
conservation initiative.

In July 2002, the team held the first Riverfly Identification
Workshops in Scotland on the Leader Water near Melrose.
The workshops were hosted by the Tweed Foundation and
sponsored by SNH. The workshops were very successful and
produced records for 8 species of Ephemeroptera, 19 species
of Trichoptera and 5 species of Plecoptera. In addition, a
small number of *Ecdyonurus* (Ephemeroptera) larvae were
discovered with a distinctive pattern of white/cream spots.
This pattern is common in mainland Europe where it occurs
on a number of *Ecdyonurus* species, including all of the UK
species there. In the UK this patterning is much rarer, with
confirmed records from the Lunan Water, Angus, Mosedale
Beck, Cumberland and now the Leader Water.

The importance of collecting adults along with larvae was
demonstrated well at this workshop. Less common species
such as *Electrogena lateralis* and *Ecdyonurus insignis* were
picked up in the bankside vegetation although no larvae were
found. Similarly, although we collected many *Ecdyonurus*
larvae, none were identifiable to species as they all belonged
to the *Ecdyonurus venosus* group. The collection of adults of
Ecdyonurus dispar would suggest that at least some of the
larvae collected were *E. dispar*.

The team is planning further regional workshops during 2004. For more information contact
 Bridget Peacock, Invertebrate Biodiversity Co-ordinator, UK
 Biodiversity Programme, The Natural History Museum,
 Cromwell Road, London SW7 5BD. Tel: 0207 942 5932.
 Email: ukbiodiversity@nhm.ac.uk

Craig Macadam

GREAT BLACK-BACKED GULLS AT ANSTRUTHER, FIFE

One of the many benefits of an atlas, such as the newly published *Fife Bird Atlas*, is to inspire us to look again at the data in old notebooks. In the text of the Fife Atlas on the Great Black-backed Gull, the author, Norman Elkins, draws attention to a marked passage in Fife along the east coast between July and October, with large counts a little later higher up the Forth and inland. In view of the ongoing changes to sewage outfalls and effects on Great Black-backed Gulls elsewhere (up to 91% decrease on the Tyne), he recommends 'regular counts of this species along the Forth coast'.

We have been keeping regular counts from our house in Anstruther, overlooking the outfall of the Dreel Burn and the bay by Anstruther harbour, since 1983. Great Black-backed Gulls are present in variable numbers, depending mainly on tides and storms, but we normally count between 10 and 25 days in the month and have found that the maximum count in any one month gives a good impression of the overall numbers of birds about, both for this and other species. The sewage outfall was modernised in 1994, but it had teething troubles for a couple of years and even now a so called storm saver spews out what appears to be semi-treated sewage after heavy rain, or when the main system for other reasons becomes overloaded.

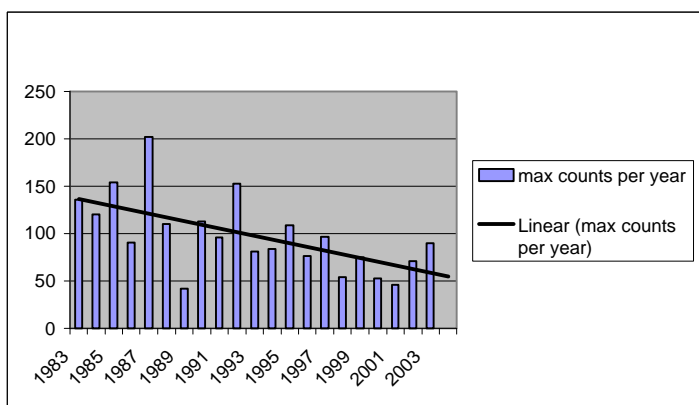


Fig 1 Maximum counts per year (Anstruther)

Fig. 1 shows the yearly maxima counts of Great Black-backed Gulls at Anstruther in the last 21 years, demonstrating a decline of some substance despite considerable variations from year to year. The effect of the modernisation of the sewage system is not obvious.

However, Fig. 2 shows the pattern of monthly maxima in two periods, 1982-1993, before the new sewage system, and 1993-2003, since that time. Here it is evident that there has been a big reduction in the second

decade in the ability of Anstruther to attract and hold Great Black-backed Gulls in the period when numbers are highest between July and December. The shape of the annual graphs in both decades nicely confirms Norman Elkins' interpretation of the annual movement in the Forth, at Anstruther peaking in October. Interestingly, there has been no decline in the numbers of Great Black-backed Gulls here in the first half of the year, when they have always been less numerous. There has even been a slight increase in May, which may reflect the small but growing breeding population on the Isle of May.

Chris Smout

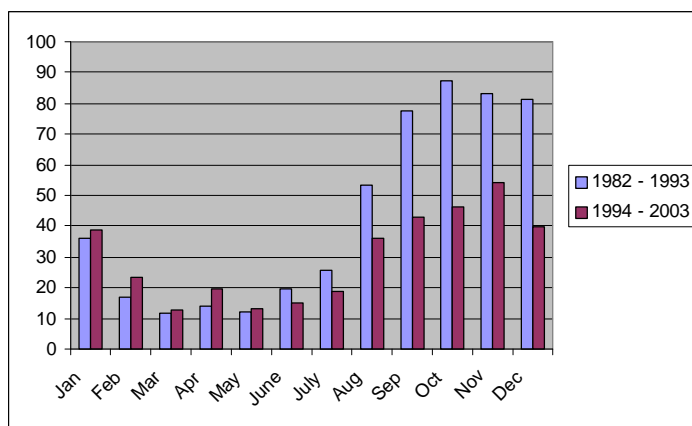


Fig 2 Monthly maxima counts 1982-2003 (Anstruther)

[It is hoped to have a review of the *Fife Bird Atlas* in the next issue of *BRISC Recorder News* – ed.]

CONCHOLOGICAL SOCIETY SCOTTISH MEETING

Molluscs, which include snails, slugs, seashells, etc. are an extremely important and interesting part of our natural heritage. The Conchological Society of Great Britain and Ireland, which has been promoting their study and enjoyment since 1876, is holding a Scottish meeting on the morning of Saturday 13th March 2004 in Edinburgh. The meeting is open to all, including members of the general public. As well as talks about the land and freshwater molluscs of Scotland, and Scottish marine molluscs, there will be a session when you can meet the experts, and get your specimens identified. For children there will be a limited number of "goody bags" of conchological interest to take away, and copies of the Society's new magazine, *Mollusc World*, will also be available.

The meeting will be held at the Eric Liddell Centre, Morningside Road (Holy Corner), Edinburgh, starting at 10 o'clock for 10.20. For further information, contact **Adrian Sumner** by phoning 01620-894640 (evenings) or e-mailing atsumner@clara.net (subject line: CSGBI Scottish Meeting).

NEW RECRUITS HELP SCOTLAND'S BUTTERFLIES AND MOTHS

Scotland is a magnificent place for butterflies and moths. We have strongholds for some of the rarest and most vulnerable species in the UK, such as the Marsh Fritillary, Pearl-bordered Fritillary and Argent and Sable moth - all declining species, and the Chequered Skipper and Slender Scotch Burnet moth, which in the UK are only found in Scotland. So it is ironic that Scotland has so few volunteers recording our lepidoptera, and that many colonies of important species are not being monitored or even surveyed sufficiently to provide important background information to help make sound management decisions for their benefit. Sadly, this is not just the case for notable species - information about even the most common species is often lacking.



So the success of the Butterfly Guardians for Scotland project in its first year is excellent news. This two-year project, funded by the Heritage Lottery Fund and Scottish Natural Heritage, was set up to recruit new volunteers to help with both general and targeted survey and monitoring of butterflies and moths. The focus of the project is a series of workshops, held to attract interested people, train them in identification techniques and survey methodologies, and then encourage them to use their new skills to carry out voluntary work following the workshop.

So far over 100 local residents in Dumfries and Galloway and Argyll have attended volunteer workshops and then signed up to volunteer tasks, demonstrating that there is no lack of enthusiasm for involvement out there and that there is great potential for future volunteer development in other parts of Scotland.

A variety of workshops are organised in each area so that both absolute beginners and those with some previous knowledge can get involved. The introductory workshops for butterfly recording give basic identification skills and demonstrate survey techniques, and those for moths are held in the evening to show participants the wonderful variety of night-flying lepidoptera, and how to go about moth trapping, with or without expensive equipment. In 2003, specialist workshops took place in some of the most remote and beautiful parts of Scotland - on the

Isle of Mull for rare Burnet moths, the west coast of Argyll for Pearl-bordered Fritillaries, the Galloway coast for Northern Brown Argus and the Isle of Islay for Marsh Fritillary.

Whether introductory or specialist, the workshops have so far been incredibly popular, some full to capacity. The result has been a fantastic increase in recording on the ground - both in terms of bolstering existing work - e.g. recruiting new volunteers to help with butterfly transects and other monitoring of key sites, and in important survey work, such as filling in the gaps for the Butterflies for the New Millennium Project (Butterfly Conservation's general butterfly recording scheme) and visiting sites for important species which have not been checked recently.



New volunteers following a workshop at Threave Gardens, Castle Douglas
photo Tom Prescott

So what happens now? "We hope that these new recorders will continue their involvement for many years to come" said Julie Stoneman, the project leader. "We now have willing volunteers, trained in identification and recording techniques, living in two of the most important areas for butterflies and moths in Scotland. It is paramount that we continue to encourage them to maintain their efforts through support and feedback. In many ways, our work has only just begun".

For more information contact Julie Stoneman, Butterfly Conservation Scotland, Balallan House, Allan Park FK8 2QG. Tel 01786 447753, Email jstoneman@butterfly-conservation.org.

NOTES FROM THE CHAIR

BRISC's annual conference and AGM this year takes place in the Edinburgh University Students' Union by McEwans Hall in Edinburgh on Saturday 6 March. Please make sure this date is in your diary. The theme of the conference:

“Secret Wildlife, Recording the Urban Environment” has become even more topical since we chose it back in June, and once again we have secured some excellent speakers. The programme with booking form is included with this issue of ‘Recorder News’ as well as our Annual Report for 2003. Please tell everyone about the conference, so that we can have a full house.

One of the big issues for BRISC these last three months has been the work on promoting a national network of Scottish Local Records Centres. This work is covered in details by Alan Cameron in his article. A subcommittee has further developed the proposals for a Taxonomic Training Facilitator (now retitled ‘Wild about Wildlife: Recruiting new Recorders), and we have had preliminary discussions the Heritage Lottery Fund in Edinburgh. Other significant work has been input into the consultations on the Nature Conservation Bill and the Scottish Biodiversity Strategy, entailing many meetings and discussions. This is a time consuming but important task, but because we take seriously BRISC’s commitment to represent the interests of the Scottish recording community. It is also the case that if you do not make the effort to make your views known, you have little right to complain if things fail to turn out the way you like. At present, if the Nature Conservation bill becomes law, it is very good news for Scotland’s biodiversity.

This brings me onto the subject of the ‘everyone’ campaign, run by Scottish Environment LINK during the months leading up to the last election to the Scottish Parliament. As a member of LINK, BRISC strongly supported this non-party campaign to push the environment higher up the political agenda, and we think there is good evidence that it was really successful. A second phase, ‘everyone 2’, is currently being planned, and readers will be kept abreast of developments, so watch this space. I also recommend a visit the website at www.everyonecan.org for further information.

This year, RSPB Scotland celebrates its 100th anniversary, and as part of the celebrations a series of award schemes are being organised, all open to public participation. Details of the five or six different awards and how to vote are on www.rspb.org.uk/Scotland/centenary/awards

Also, but not strictly part of the celebrations, RSPB is ‘going solar’ and offering a special deal on installations of solar systems. Not only can the solar panels heat your water etc., but you can ‘sell’ any surplus to the national grid, and statistics of what energy you collect from the sun, what you use, and what you ‘sell’, are all displayed on a mounted screen, so that you can see how you are doing. I was among a number of people invited to the official launch at Vane Farm in October, in the rain – but even then the panel showed some solar heat being generated. With our increasing concern about renewable energy, it ought to be national policy to install solar systems at least on all new houses.

New measures to combat ‘spam’ and computer viruses means that it will become illegal to email anyone in this country without their consent. Because most of unwanted email comes from the USA, these measures will probably not have the effect we were all hoping for. Nevertheless they will have some impact on us. BRISC’s membership form has a space for providing an email address, and it is up to individual members to fill this in or not. Please note that if an email address is supplied, we will consider it as permission granted. However, all general communications from BRISC should in future come with blank copies and no longer show personal email addresses.

Anne-Marie Smout

**BUTTERFLY RECORDERS’
GATHERING 2004
Saturday 28th February 2004 - 10am - 5pm,
Cowane Centre, Stirling**

This meeting will be of interest to anyone involved in butterfly recording in Scotland, whether in a voluntary or professional capacity. Presentations will provide feedback about transect monitoring - both from the Butterfly Monitoring Scheme and Independent Transects, and Butterfly Conservation’s general recording scheme – ‘Butterflies for the New Millennium’. There will also be a discussion on the use of butterflies as indicator species, as well as examples of survey and monitoring work in Scotland. There will be a charge of £7.50 to cover refreshments including a buffet lunch, and booking is required – For more information and a booking form, contact Butterfly Conservation Scotland on 01786 447753 or email scotland@butterfly-conservation.org

ALL WELCOME

**Local Records Centres
News and Updates**

**First steps for the new LRC in Dumfries and
Galloway**

Solway Heritage is pleased to announce that the recruitment of an LRC Manager and Assistant Data Manager for the new Environmental Records Centre (ERC) for Dumfries and Galloway is now complete. Clair Spray, Ecologist for Solway Heritage is delighted with the response for the new jobs, “We had a very high standard of candidate applying for the two new jobs and have now recruited staff for this exciting new venture. The manager, Mark Pollitt, will start on 5th February and is moving from the Wildfowl and

Wetlands Trust, Slimbridge, where he co-ordinated the Webs counts. Nicola Stringer, the assistant data manager, will start on 12th January. She is moving to Dumfries from Basingstoke but has experience from working with Somerset Records Centre. We look forward to getting the project moving forward in 2004.”

The ERC will be hosted by Solway Heritage in the first instance and will be managed by a steering group of representatives of the partner organisations, comprising Scottish Natural Heritage, Dumfries and Galloway Council, Solway Heritage, the Scottish Environment Protection Agency, RSPB and representatives from the recording community.

The determination of the partnership to set up an LRC has now paid off with contributions to funding coming from a number of sources, including Dumfries and Galloway Council, Landfill Tax Credits, Leader+, the Scottish Environment Protection Agency, and Scottish Natural Heritage.

The partners are now very hopeful that the recruitment will be successful and will mark the start of a new era for managing and supplying biological data and supporting wildlife recording in this diverse and beautiful part of Scotland. It is intended that the new ERC will meet the needs of the remote and rural communities of Dumfries and Galloway by making environmental data accessible to all.

ANDY BREWER VISITS SCOTTISH LRC

During the first week in November the Lothian Wildlife Information Centre (LWIC) was very pleased to host Andy Brewer, NBN Technical Liaison Officer, for a two-day programme of information sharing events, demonstration exercises and discussion sessions.

The Centre manager, Bob Saville, and a number of LWIC's directors described how the LRC is managed and how it services the local market for data. After a more detailed exploration of the data management systems and of the specific requirements of its customers, the programme turned to look at the current and planned functions of the NBN Gateway.

Detailed discussions were held on the potential of the NBN Gateway to deliver data products directly to LWIC's customers and to act as a mechanism for the LRC to access and use data that are managed by others.

Everyone involved found the exercise very useful. Bob was pleased to see many of the Gateway developments, commenting that “it has certainly come a long way since I first saw it; with the planned download capacity I can see how it could be used by some of our users, especially those with their own GIS.” Many of the technical challenges faced by LRCs are similar to those being tackled by the Gateway, and Andy is particularly grateful

to LWIC staff and directors for their time, pointing out that he would be happy to visit more LRCs to look at how they can use the NBN Gateway.

Alan Cameron

Please NOTE:

Lothian Wildlife Information Centre has got a new email : info@lothianwildlife.co.uk The rest of the contact for LWIC is as usual:

Bob Saville
Lothian Wildlife Information Centre
Leith Walk Business Centre
Room 19, 130 Leith Walk
Edinburgh
EH6 5DT
Tel/Fax 0131 554 6360

Glasgow Museums Resource Centre

Due to the closure of Kelvingrove Museum for refurbishment, contact for this is now

Richard Sutcliffe
Research Manager (Natural History)
Cultural & Leisure Services (Museums)
200 Woodhead Road
South Nitshill Industrial Estate
Glasgow G53 7NN
Tel. 0141 276 9330 Fax 0141 276 9305
email remains: richard.sutcliffe@cls.glasgow.gov.uk

North East Scotland Biological Records

Centre has moved.

The new address is
NESBReC
Room E106/107,
Aberdeen University,
Hilton Campus, Hilton Drive,
Aberdeen AB24 4FA
Tel.- 01224 273633
email remains nesbrec@aberdeenshire.gov.uk

A National Plan for Scottish LRCs and Report of Meeting on 22 October 2003

BRISC views Local Records Centres (LRCs) as the most rational and effective means to deliver high quality information on wildlife to agreed standards, and it has long been one of BRISC's top priorities to help set up a fully operational national network of LRCs. BRISC is very keen to see LRCs supporting and encouraging biological recording across the whole of Scotland and working closely with national recording schemes and societies to ensure that everyone knows what data have been collected in their area.

Nature conservation relies on detailed local knowledge and understanding of species and habitats. BRISC would like to see fully funded LRCs that are equipped to collate, manage and make available all available datasets within the context of agreements to protect 'sensitive' data.

Back in June 2003 BRISC was asked by SNH to draft a 'National Plan for LRCs'. The Plan benefited from contributions and comments from a number of existing LRCs and from the BRISC committee, and describes how the current gaps in the LRC network may be filled.

As a follow up to drafting the 'National Plan for LRCs', BRISC was very pleased to work with the SNH Natural Heritage Data Unit to co-host a seminar on 22 October 2003 on the 'Way Forward for Local Records Centres in Scotland'. The seminar focused on discussing the services that LRCs can deliver to SNH and on building a business case for delivering financial support for the LRC network. The seminar attracted over thirty delegates including LRC staff and management, SNH managers, Area Officers and National Strategy staff, the Highland Biological Recording Group, Scottish Environment Protection Agency, the Scottish Wildlife Trust, the National Biodiversity Network, Shetland Islands Council, the LBAP officers network, and the BRISC committee.

The seminar was opened by Alan McKirdy, Manager of the SNH Natural Heritage Data Unit, who explained that SNH is working on LRC policy at present, with a paper being presented to its Management Team in the New Year. Alan described some of the services that SNH would like to see LRCs deliver, including baseline surveys of habitats and species, support for development control casework, and data to guide LBAP work. A number of potential future requirements were also outlined, including: state of the environment reporting (baseline & monitoring); environmental indicators; facilitation of taxonomic training; underpinning the Scottish Biodiversity Strategy; and supporting the requirements introduced through the Freedom of Information Act and the Strategic Environmental Assessment Bill.

Alan Cameron, the BRISC development officer, described how an LRC network must be complete, standardised, integrated and quality controlled, to meet the needs of national bodies. The National Biodiversity Network has now set standards for LRCs and Alan outlined the core LRC functions described in the model against an analysis of the current gaps in LRC coverage and capacity in Scotland. The presentation concluded with a request that everyone works to build real commitment to resource and promote a national network based on the standard LRC model, and that a representative national body be established to oversee network planning and implementation.

Geoff Johnson, the SNH NBN Co-ordinator, expanded on a number of points introduced by Alan McKirdy on SNH's current and future requirements from LRCs, stressing the need for LRCs to liaise with local recorders and to adopt

recognised standards and use licenses for managing access to data. Geoff highlighted a number of services that LRCs may be able to deliver, raising the potential for LRCs to manage survey work, support site condition (and trends) monitoring, and service many of the needs of SNH customers. The adoption of UK standards is critical and it is important to SNH that LRCs work more closely with the NBN, in particular that they adopt the NBN data model, use the NBN species dictionaries and start to use the NBN Gateway to deliver data to their users. Geoff stressed the importance to SNH of approaches being made to them by viable local LRC initiatives that can demonstrate how they will meet the needs of all their local partners. The demand for data from SNH and other users varies across the country, and there is a need to think about local variations in how LRCs may operate and in the services they offer. Finally Geoff stressed that SNH must secure value for money and that LRCs must therefore demonstrate how this will be delivered, perhaps through delivering services in new ways through integrating with SNH's internal data management systems.

Jon Mercer, Manager of the Scottish Borders Biological Records Centre, presented a very well received talk, illustrated with practical examples from the Borders, on the services that LRCs can deliver. A summary of this talk is presented here below.

Workshops and a panel discussion completed the day and it was recommended that SNH and BRISC set up a group to oversee a 'National LRC Strategy', within which organisations will develop their own work programmes to develop LRCs. SNH and BRISC agree that this group must seek to benefit from exiting initiatives and political priorities, in particular the Scottish Biodiversity Strategy. It has therefore been agreed that a small strategy group be established by the LBAP working group to set out a national framework for LRCs within the wider context of the information requirements of the Scottish Biodiversity Strategy.

Alan Cameron

MEETING THE NEEDS OF THE COMMUNITY – THE LRC ROLE

The original title of this paper was intended to be something along the lines of 'What can Local Record Centres provide for Scottish Natural Heritage'. The immediate, and glib, answer to this was "whatever SNH wants". As a business the LRC should look after the needs of its clients, and as the main funder of LRCs, there is no more important, or indeed interested, client than SNH in Scotland. However, LRCs have a wider remit than simply the support of one funding partner. It is important to remember that we have roots in the recording community, and that there are many different parts of the larger community that the LRC is expected to serve, each with different needs and objectives. It is useful to recap some of

the organisations and groups that the LRC may be of use to, and how. It is equally important to recognise that the roles of these groups are not mutually exclusive, and that

local partnerships often include several of the different bodies listed below.

Group	Activities
SNH	Data management, reporting, monitoring, surveying, local planning, public enquiries, training
Recorders	Training, support, promotion, adding-value, networking
LBAP Partnership	Inventory, monitoring, projects, support of NH Officers
Local Authority	Planning, education, transport and utility networks. Monitoring of LA land holdings, greenspace
Forestry Commission / Enterprise	Data management, monitoring, recreational mapping, Scottish Forestry Grant Scheme
SEPA	Water Framework Directive, data management
SEERAD	Data management and exchange, monitoring environmental grant schemes, NVZs
SWT	Data management and exchange, Wildlife Site selection and management
Other NGOs – RSPB, NTS, Woodland Trust, John Muir, River Foundations etc.	Data management and exchange, site-based information
BSBI	Data collation, verification and exchange
Other national recording schemes and societies incl. NBN Gateway	Data management and exchange, Atlas projects, verification
Community groups – Community woodlands, parish councils etc.	Local knowledge, planning, local guides
Schools	Recording, identification and mapping projects, Natural Connections
Universities and colleges	Academic research, projects
Area Tourist Board	Promotion, wildlife site information, mapping
Members of the public	Interest, enquiries, promotion of biodiversity

In order to fulfil these many and varied functions the LRC must have developed a suitable suite of tools with which to work. Many of the recommendations for running a LRC have already been proposed by the National Biodiversity Network and National Federation of Biological Recorders. Inevitably implementation of these takes time, but here is a list of tools to which all LRCs must work towards acquiring:

A. Species and Habitat Data

- substantial coverage of known species and habitat records for an area with OS refs
- minimum requirement - all known records of nationally important species and habitats
- metadata
- recognised species and habitat dictionaries

B. Status

- Conservation status – legal, designations in UK and Internationally
- Local status - species and habitat lists and degree of rarity

C. GIS

- Recognised package
- Interchangeable GIS file format for LA and government agencies

D. Site and mapping layers

- Protected and designated areas, e.g. NNR, National Park, SSSI, NSA, SAC, SPA, AGLV, RAMSAR, Wildlife Reserve, Wildlife Site
- Boundaries – LA, Vice Counties, Parish boundaries
- Water bodies, transport networks, settlements etc
- Archaeological sites

E. Environmental Information

- Land use and vegetation cover – minimum Broad Habitat
- Soil, geology and hydrology
- Contour
- Climate
- Marine

F. Aerial photography

G. Internet Access

- E-mail and broadband+
- Website and web presence
- Interactive data entry and mapping

H. Resources

- Library
- Expert access
- Laboratory and field equipment for recording
- Services/publicity leaflet/flyer
- Recorder support group

With the compilation of the above resources, the record centre is well equipped to perform a number of services. Not the least of these is data management, a task at which a LRC should be expert:

1. Data Entry and Management

- Provision of correct taxonomic information, including old records – a skilled activity
- Verification of species, sites, grid references
- Extraction of records from reports, scientific and site files, archives
- Collation and integration of digitised record sets
- Audit of local records held nationally and by local organisations

2. Data searching and reporting

- Species / habitats recorded in a location
- Locally important species / habitats recorded in a location
- Records for distribution of a species / habitat
- Records for groups of species / habitats
- Conservation status reports for species / habitats
- Species habitat lists for a location
- Site details – general
- Time trends - population and habitat change

3. Mapping

- Digitisation of boundaries and compartments
- Map-based reporting
- Provision of maps for environmental projects, e.g. tourism, project sites
- Production of Atlas and local distribution maps

4. Interpretation of data

- Provision of ecological services – habitat and species management advice based on local information
- Wildlife advice centre – what to do and who to contact
- Coincidence mapping
- Predictive searches – use of environmental and species data to target surveys

5. Generation of New Data

- Site Condition Monitoring
- Strategic surveys, e.g. of species groups, habitat types
- Reactive surveys, to threats, enquiries
- Public surveys – backyard biodiversity
- Local co-ordination of national surveys
- Design and implementation of survey schemes

6. Education and Lifelong Learning

- Portal to NBN Gateway www.searchnbn.net
- School ground projects
- Natural Connections Projects – Natural Heritage / Biodiversity awareness, recording and mapping www.naturalconnections.info
- Local biodiversity projects
- Academic research and information provision
- Project work – EcoProjects (LEARN) www.che.ac.uk/ecoprojects/
- Volunteer development

7. Recorder Support and Training

- Provision of network through meetings and newsletters
- Technical support and contact to experts
- Training schemes – identification, surveying and recording
- Public events and recording days

8. Community services

- Natural Heritage information – guides, local publications
- Planning enquiries
- Local tourism initiatives, data supply and mapping
- General interest enquiries – where, what?
- Community biodiversity – parish / district information
- Local recording schemes
- General promotion of biodiversity and recording through talks, articles, events, media coverage

Of course, the above list is ambitious and entirely dependent on adequate funding. It is clear, however, that a LRC can offer many things of benefit to all aspects of the community, and that conversely, each will potentially benefit from the development of services aimed at a specific client such as SNH. The vision for the future must be one of a well-resourced network of LRCs working in partnership with government organisations, the local authority, NGOs, the recording community and the public at large to enhance and promote biodiversity in a specific region. The LRCs must be part of the larger national and international recording network, but not remote from the recorders in the region. To achieve this LRCs need to be proactive in the stimulation of data collection and promotion of beneficial uses. Above all there is a need for flexibility in approach both from the LRC and the partners with whom it works.

Jon Mercer

GETTING A GRIP ON DATA - THE WORK OF THE NHDU

The Natural Heritage Data Unit (NHDU) was set-up in April 2002 by its current head, Alan McKirdy and comprises six members of staff located in offices at Battleby and Anderson Place in Edinburgh. Its main purpose is to make SNH's holdings of natural heritage data and information available in an appropriate format to our own staff and also to an external audience.

This is no mean feat because like any large disparate organisation, we hold data and information in a number of different formats and within a diverse range of computer systems. These vary from record cards in a shoe box under a desk in Edinburgh, to our corporate Management Information for Designated Areas and Sites (MIDAS) computer system, which is the main repository for information on Sites of Special Scientific Interest (SSSIs), Special Protected Areas (SPAs) and Special Areas of Conservation (SACs). We have a corporate Geographic Information System, which enables our staff to interrogate and manipulate spatially referenced information. They can

print maps or find out which habitat classes can be found on a particular site.

After our staff, data and information is the most important resource SNH has. It is the life-blood of the organisation. We need to continually develop and improve our systems so that information is delivered in appropriate formats and in consistent ways. We are trying to achieve this goal by working in a number of areas:

Data quality – we need an objective consistent way of recording how good, bad or indifferent a dataset is so that we know what we can and can't use it for. To this end we are employing quality matrices which allow a number of criteria including location, representation of the resource as a whole and experience of the surveyor to be recorded in a simple scoring system. We will record this information for all datasets coming into the organisation and store it in the metadata.

Data capture – despite the success of our existing GIS and database systems, there are still records used by our staff on a daily basis which reside on record cards and paper maps. To get the best out of these resources we need to capture them electronically so that we can secure them against physical damage (fire, flood etc.) and make them available to other people more easily. Our Data Custodian and Data Officer and going to be working with our staff to identify priorities and mobilise the information in ways which best suit the data and the ways in which it is used.

Process-based working – a lot of what our staff do can be broken down into a number of areas. These areas of work require the same sorts of information to be delivered in the same sorts of ways. We are going to work with our staff to make sure that the relevant data and information is presented in suitable formats at the appropriate times. The challenge is to build systems which empower our staff to carry out their work effectively using applications which are as easy to use as booking an EasyJet ticket from their website.

This should offer some insight into the sorts of things that are going on within the NHDU largely under the revised corporate theme of *Ways of working*. Of course this is only part of what we do. Our developments must include working with our corporate partners (SEPA, SEERAD, Forestry Commission etc), developing the National Biodiversity Network and making data and information to all sectors of the Scottish public.....but more about that next time.

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[This is the first of a two part article - the second part will follow in the April edition of 'Recorder News' ed]

IT CORNER

'Nature Navigator'

This is a new online guide to British wildlife and biodiversity, launched in the autumn of 2003 by the Natural

History Museum with support from the New Opportunities Fund. It will be a further contribution to the National Biodiversity Network and will complement the Museum's work on the NBN's Species Dictionary project. 'Nature Navigator' is aimed at the general public and the non-expert and allows searching for species under both common and scientific names. It also contains much information about classification and identification and has links to other Internet resources providing pictures and more in-depth information.

It can be viewed at www.nhm.ac.uk/naturenavigator

Another website for bumblebee enthusiasts

BRISC was contacted the other day by a bumblebee enthusiast who had created his own website with various illustrations of plants and bumblebees as well as some useful text. Of particular interest is his illustration of *Bombus hypnorum*, a new species for UK, recently arrived in the south of England. The address of the site is <http://www.beeplants.info/>

Vice County Boundaries from the NBN

Digitised Watsonian Vice-Counties of Great Britain at 1:10,000 scale are now available for downloading from the NBN's website at www.nbn.org.uk

For the first time, mean low water mark (MLWM), and 3 and 12 nautical mile limits have also been defined for the coastal VCs. Zip files for individual VCs or whole GB polygons can be down loaded free for personal and non-commercial use. A CD-Rom is being produced which includes both the original data and a software tool to create user-defined boundary sets. To order the CD, which will be available from the end of January 2004, contact the NBN Trust on 01636 670090.

Review

Land Cover Change: Scotland from the 1940s to the 1980s. CD-Rom from SNH; £5

To accompany the book by Ed Mackey, Michael Shewry and Gavin Tudor on 'Land Cover Change: Scotland from the 1940s to the 1980s', Scottish Natural Heritage have released a CD containing the information on which the book is based, available for the price of little more than the postage from SNH Publications. This contains a Geographical Information System (GIS) Tool for the display and analysis of mapping information used to assess land cover change taken from the National Countryside Monitoring Scheme (NCMS). The first thing to note is that the tool has been specifically written for use with ArcView™ v3.2 and above, so will be only useful to those that have access to this GIS package.

The land cover categories are loosely based on 29 broad habitat descriptions, covering the major types of land use (e.g. arable, coniferous plantation, unimproved grassland). The data have been gathered from a series of aerial photographs for sample 2.5km or 5km squares, interpreted for land cover categories and subsequently ground-truthed

for accuracy. The same sample squares were assessed in approximately 1947, 1973 and 1988 to provide an estimate of land cover change. The land cover for each sample square can be visualised using GIS for each of the three time periods using a standard key, and a map showing change between selected periods is also shown. Certain land cover categories can be merged together, which is particularly useful where interpretation of type is difficult. Information from these squares is extrapolated to provide an estimate of land cover for a given geographical area. This can be the whole of Scotland or a specific region. Local authority areas can be chosen, or the user can provide their own shape file of a target area and extract the relevant data within this. For specific target areas the information for the sample squares within the region is supplemented by data from other contiguous regions in order to provide improved estimates and standard errors.

Naturally I looked for estimates of change in my own region, the Scottish Borders. Here I learned that the estimates were based on a total of 28 squares at least partly inside the Borders region and 27 from outwith the region, the sample area from within the region extrapolated to an estimated total of 4717 sq km (compared with an actual area of 4743 sq km). These are summarised and a map provided showing the location of the sample squares. The analysis of land cover change is enlightening, and is shown separately for estimates of area and linear features. Some depressing trends were confirmed. The area of coniferous plantation increased in the Borders between the 1940s and 1980s by 369 sq km (578%), as did the area of young plantation (299 sq km, 4295%), smooth grassland (168 sq km, 30%) and intermediate grassland (174 sq km, 51%). Over the same period there were dramatic reductions in the areas of heather moorland (402 sq km, 40%), blanket mire (254 sq km, 71%) and rough grassland (410 sq km, 34%). Similarly we appear to have lost 61% of our hedgerows, but have seen huge gains in the total length of ditches (120%) and tracks (148%). It was equally interesting to see these changes confirmed on the maps of the specific sample squares. Such changes in an area of low population perceived to be relatively 'untouched', are disturbing and point to significant, but largely unknown, effects on local biodiversity. If the estimates of change are brought up to date one wonders if these losses have continued, or whether some of the declines have been reversed?

Clearly there are limitations to this type of analysis in terms of the sampling, interpretation of photographs and extrapolation of data. If one regards this as a broad-brush approach, however, then some interesting trends, together with some very useful statistics emerge from using the tool. The baseline data provided are invaluable for any future comparisons of land use. For anyone with access to GIS and a working knowledge of ArcView™ this effectively free tool is well worth having.

Jon Mercer, SBBRC

BOOK REVIEWS

Waring, P. & Townsend, M., illustrated by Richard Lewington (2003). *Field Guide to the Moths of Great Britain and Ireland*. British Wildlife Publishing. ISBN 0-9531399-3-x, hbk. £45.00 ISBN 0-9531399-1-3, pbk. £29.92

This is an excellent book for anyone with either a serious interest in the subject, or for someone just venturing into the wonderful world of British moths. For a paperback it is expensive, however the book is attractively presented and looks as though it should take a fair amount of abuse - after all, that is what any worthwhile field guide must expect!

Packed with information this guide deals with all the resident and migrant macro-moths occurring in Great Britain and Ireland. The text is clearly presented giving information on each species' national status and distribution, field characters, similar species, flight season, life cycle, larval food plants and habitat. The section on 'how to use this field guide' is very helpful and can't be missed as it is right at the front of the book, which is not always the case with field guides. A particularly neat touch is colour coding the page numbers by family and having them at the edge of the page - this makes for easy access to the correct section of the book.

The information is arranged by moth families with a short introduction to each family; the authors have put each family found in Great Britain in a worldwide context. This really brings home just how diverse the order Lepidoptera is. The two largest families of macro-moths in the British Isles are the Geometridae and the Noctuidae. Here we have over 300 species of geometrids and over 400 of noctuids; worldwide there are well over 20,000 species described for each of these families. In total contrast, the beautiful Emperor moth found on Scotland's heather moorlands is the only species of the Saturniidae found in Great Britain; there are about 1,300 species worldwide.

Richard Lewington's illustrations are outstanding with every species shown, usually with the male pictured. If the female varies significantly this is illustrated too, along with colour forms and subspecies. The moths are shown in their normal resting positions which makes identification of live specimens a great deal easier than when looking at a picture of a 'set' individual as in other field guides. To add to the interest of the text pages there are over 80 superb photographs of larvae scattered through the book. In some cases these could have done with a bit more of a caption than just a name; for instance - is the larva of the Essex Emerald suffering from an infestation of parasites or does it look like this when healthy?

This, and the lack of a glossary, are my only criticisms of this splendid book, and I feel rather churlish for making them, as the attention to detail throughout this guide appears to be first class. I would suggest this guide is an essential tool for every one with any interest at all in the rather dauntingly large task of correctly identifying Great Britain and Ireland's rich diversity of moths.

Elsbeth Christie

Jenkins, D. (2003) *Of Partridges & Peacocks*. TLA Publications, P.O. Box 62, Aboynne, AB34 5YF. ISBN: 0-9546277-0-9; pbk. £21.00 + £4 p&p.

This is David Jenkins' autobiography: a warts and all description of his outstanding career in ecological research, much of it in Scotland but with substantial forays to far away places. The book is organised around phases in his life, childhood and education, early veterinary experiences, PhD research on partridges in Oxford, formation of the Grouse Unit in Glen Esk, research management in Edinburgh and Banchory, and world travel as an ecological consultant, much of the latter in a form of retirement that would have exhausted anyone without the author's stamina and determination. There are 18 pages of mostly small black and white photographs, four appendices, two pages of references and an index to people and places (but generally not subjects). As well as astonishingly detailed lists of birds seen over half a century of bird-watching, the book is peopled with an equally astonishing recollection of characters in every walk of life, from students to professors and gamekeepers to landowners. Potted histories of important people are sometimes "highlighted" in grey; ditto selected events.

This is a brilliant account of what it is to be involved in researching the reasons why animal populations go on existing without becoming so many that they exceed their resources or so few as to become extinct. Students of animal ecology, exposed to arguments about density dependent and density independent factors, will especially benefit from the chapters on partridge and grouse research, both masterfully clear accounts of complicated work. At various stages in this history, the author provides thought-provoking summaries of the results of research, the extent to which they are universally believed, lessons accruing for practical conservation and the reasons for some research going disastrously off-track. The book is also an honest account of what is involved in supervising and collaborating in ecological research, with much detail about sourcing funding and generally keeping on top of what is often a complicated system of partnerships between the private and public sectors. The past half-century has seen a roller coaster of ups and downs in state funded ecology and conservation. Professor Jenkins was involved in much of it and he is frank about the way that research at Banchory was for a time protected from the worst excesses of political interference, while some other stations suffered from a regime of change.

Later in life he became scientific adviser to the World Pheasant Association and, as well as supervising students world wide investigating game birds and mammals, he also organised important conferences in numerous subjects both at home and abroad. The story of the Cheer Pheasant is particularly good, and much else besides such as about capercaillie, lions and land use in Breckland. He is modest about his battles against various aches and pains, including glaucoma, all of which would have flattened someone with less courage. There are some very funny bits, such as a tame owl whose droppings piled up: "nobody minded – hall,

eating room, bedroom – it made no difference, all thresholds were similarly whitened" and about a rat at a royal reception.

These are the many good things about this autobiography, warmly recommended on that account for anyone interested in game birds and the management of ecological research generally. Alas, the book has several downsides and the intending purchaser is hereby forewarned. Firstly, it is much too long. No doubt the small print and narrow margins compress the roughly 200,000 words into a manageable volume, but it would have been kinder on the reader's patience and eyes to have edited out, say a fifth of its length. We really do not need to know the awful condition of every loo across Siberia, nor what were eaten and drunk at countless meals. More troublesome for this reviewer are the errors or infelicitous expressions, especially as the author devoted so much of his life to editing other people's prose. Here are some. Norman Moore's book has the title *The Bird of Time*, from the seventh stanza of the Ruba'iyat of Omar Khayyam, not the prosaic 'A bird in the hand'. Although Chamber's allows 'decimate' to mean (loosely) to reduce very heavily, it is an odd choice for a scientist in the context of rabbits and myxomatosis. Re the study area on Kerloch moor, negotiations were with Sir William Gladstone, not Sir Richard Gladstone. Neville Morgan might feel hurt to read that when he left the wetlands team in Edinburgh, he "retired to live in France". He went there to take charge of the Biological Station at Tours du Valat on the Camargue. A mention that 'the pines were mostly *scoticus*' is puzzling, surely *sylvestris* is intended; indeed correctly a few pages later? Another puzzle is how the author came to be a member of NCCS and SNH for 'three years each', in as much as NCCS – that curious intermediate organisation between NCC and SNH - existed for only a year. These are just a few of the worries that I can put in writing. There are more of a personal kind about various people, at least one really unkind and untrue in its implications, about which it is best to be silent.

How one wishes that a blue pencil had been employed with vigour. It is such a pity that the author's genuine interest in people, his concern to give credit where credit is due and humanity in listening to the needs of others (especially isolated ecologists) has allowed him to put on public record what would have best been left in private notebooks. An outmoded phrase seems appropriate: Gentle Reader, read and enjoy this autobiography, selectively, and dismiss the rest.

Thomas Huxley

Wormell, P. (2003) *Pinewoods of the Black Mount*. Dalesman Publishing Co Ltd, Skipton, 94 pp. ISBN 0-9543993-1-5 Standard Edition. £15.95 + £0.70 for postage.

One could not receive a nicer gift than Peter Wormell's *Pinewoods of the Black Mount*, a perfect gem of a little book. Give it for Easter and if you really want to impress, order the special edition at £75! Even the standard edition, however, has a handcrafted feel: cloth covered hardback,

title tipped on and a heavy cream paper that sets off the 28 stunningly beautiful wood engravings by Peter's nephew Christopher Wormell.

After a Foreword by Robin Flemming, the author gives a general description, with maps, of the Moor of Rannoch and the pinewoods, followed by chapters describing the Black Mount in spring, summer and winter. Subsequent chapters give details of the insects especially associated with pinewoods, the harmful and beneficial effect of fire, the history of charcoal making and the ironmasters, felling by Irish adventurers and the arrival of sheep. The book concludes by describing custodians past and present, cone gathering for seed and present activities to replenish the pinewoods of the Black Mount, much helped by Jessie Wormell's tree nursery at Letterwalton.

This partly familiar story is transformed under Wormell's hand into ecological literature of the best kind, in a tradition that goes back to Gilbert White and Henri Fabré. The chapter titled *Pine tree city* is particularly enjoyable in the way it paints a word picture of insect relationships, especially of moths and beetles, in the overall complexity of the forest. Christopher Wormell's wood engravings need really careful examination to do them justice. Remember that there is no reduction between the end-grain woodblock, the engraver's tools and what you now see. Every white area, from the thinnest white line and tiny fleck to the white surround, has had to be chiselled out, so that ink is only transferred by the remaining upstanding ridges of wood. The combined efforts of the two Wormells are, quite simply, brilliant. One small mistake (which I had to be told): the illustration on page 54 is of the Grey pine carpet, not the Tawny barred angle.

Thomas Huxley

Morris, R. (2003). *The Wildlife of Incolm*. Hillside Scotland; ISBN 0-9544760-1-8; pbk £3.50

Morris, Ron (2003). *The Wildlife of Inchkeith*. Hillside Scotland; ISBN 0-9544760-0-X pbk £3.50

If difficult to obtain, contact Hillside, Haughgate Street, Leven, Fife KY8 4SF directly

These two attractive booklets, containing comprehensive records of the birds, mammals and plants of two less well-known islands in the Firth of Forth, are most welcome additions to the literature of this area. Ron Morris has been visiting the islands to count birds as part of the Seabird Team for many years, and his intimate knowledge of their natural history is impressive. He provides a brief outline of the history of the islands, and he has done extensive research into accounts by earlier naturalists, going right back to Sibbald (1710). A list of the references he has used is included. Each species of bird and mammal (and Toad for Inchcolm!) has been given their own species account, while there is a chapter on the flora, summarising the botanical interest as well as listing all the plants recorded on each island. All butterfly records between 1972 and 2002 have also been listed. The booklets are nicely produced, beautifully illustrated, both with line drawings and excellent colour photographs. Importantly, information on how to

visit the islands is included. Both booklets ought to be on the bookshelf of anyone who has the least interest in the Firth of Forth or in islands around Scotland!

Anne-Marie Smout

Macdonald, M. (2003). *Bumblebees*. SNH's Naturally Scottish Series. ISBN 1-85397-364-5 pbk £4.95 available from SNH publications, Battleby, Redgorton, Perth PH1 3EW

As a bumblebee enthusiast myself, I am delighted to see this group at last included in SNH's very attractive 'Naturally Scottish' series. The quality of this series is well-known, and this volume is no exception. The text is most enjoyable and manage to cover, albeit very briefly, the biology and life cycle of these attractive insects, their different habitats including gardens, as well as conservation issues. The section on how bumblebees fly and why they sting are most instructive. The illustrations are a joy. As one who has tried for years to photograph bumblebees I am immensely impressed by the sharpness of the photos and the details they provide as a valuable aid to identification. There are photos of almost all the 16 bumblebee species which occur in Scotland – only two cuckoo bumblebees are missing *Psithyrus campestris* and *P. barbutellus*. Cuckoo bumblebees are now to be included under the genus *bombus*, which I do not find particularly helpful, because cuckoo bees look and behave quite differently from the true bumblebee, and I suspect Murdo feels much the same, because there is some confusion in the captions, where cuckoo bees are sometimes termed *bombus*, sometimes *psithyrus*. This does not detract from this most welcome and excellent booklet and BRISC could wish for nothing better to promote a greater interest in bumblebees or help generate new enthusiasm for our own bumblebee survey than this.

Anne-Marie Smout

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15 March 2004 is the deadline for the next issue of Recorder News. Please send all material – preferably in an electronic format – to

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