



NATIONAL FEDERATION FOR BIOLOGICAL RECORDING



NFBR NEWSLETTER 9: APRIL 1990

National Federation for Biological Recording

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Thanks to all the contributors and to BRISC for allowing us to use some of their material

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NFBR in the 1990s

When NFBR was formed in 1986 we felt that there were a number of unfilled needs in the sphere of British biological recording. Some of these needs, such as providing a forum for discussion, advertising improved methods of working and encouraging their wider adoption, and providing a network of contacts for dealing with issues as they arose, have been met by NFBR. Other needs, such as raising the profile of biological recording, particularly in the estimation of decision-makers, and lobbying for additional resources, have not been met satisfactorily, and we have learned by experience that the achievements of a "voluntary" body such as ours must be severely limited by lack of time and money.

The proposed establishment of a Co-ordinating Committee for Biological Recording should have the effect of removing from our shoulders those responsibilities and activities which we have discovered that we are unable to fulfil, and leave us free to concentrate on a smaller, and more valid, range of activities. The formation of the Co-ordinating Commission will be an important step in the direction of raising the status of biological recording and, as such, will be due in some measure to our success in raising awareness of its importance. The Commission will have to generate sufficient resources to enable it to improve the situation of biological recording but, if it achieves that, the future prospects could be good.

It is suggested that NFBR should have a representative on the Commission and should represent both the compilers of biological records and the naturalists who generate such a large proportion of them. Each represented organisation will be expected to liaise with its "constituency" and we will need to work out a procedure for involving our own members and other appropriate organisations in this process.

The Commission will, it is suggested, be composed largely of representatives from organisations which are consumers of biological

records in one way or another. While these organisations may have clear ideas about the principles and policies which they would like to see applied to biological recording, they will probably not be in a position to recommend the mechanisms and protocols which will achieve them. NFBR can, by involving the "corporate" expertise of its members, undertake a (large?) part of this work for the Commission. The reason why we have not been very successful in this type of co-ordinated action in the past is because we have never had the time or money to carry it through, and our ability to provide this service to the Commission will depend on its ability to attract sufficient funds to meet the costs involved. These costs may include a sum of money to pay for a researcher/administrator on a short- or long-term basis to do the legwork while we provide the raw data and the expertise to finalise the reports.

This proposal envisages NFBR as an "expert subcommittee" which will provide a means of tapping the accumulated expertise of biological recorders in this country and feed the results through to the Commission. In this sense we would be behaving jointly in the same way that we work in our individual jobs, by answering questions put to us by "clients" who need the information in order to formulate their decisions and recommendations. It will only work if each of us is willing to take part in this activity and make our contribution to each request.

Bill Ely, Clifton Park Museum, Clifton Lane, Rotherham, South Yorkshire, tel (0272) 874128

New bark-beetle recording scheme

The bark-beetles of the family Scolytidae include several species of forest pests as well as the elm beetles notorious as the vectors of Dutch Elm Disease. About 60 species are known in Britain, and, surprisingly in view of their economic importance, the geographic distribution of most species is not very well known.

The Forestry Commission Research Division is naturally concerned to know more about the distribution of both native and introduced species, and, backed by BRC Monks Wood, they will be launching a recording scheme soon. Co-organisers of the scheme are Tim Winter of the Forestry Commission's Alice Holt Research Station and Colin Fairhurst of the University of Salford. BRC recording cards for the scheme should soon be available, and any existing records or requests for further information should be sent to:

T. G. Winter, Forestry Commission Research Station, Alice Holt Lodge, Wrecclesham, Farnham, Surrey GU10 4LH

New spider recording scheme

A revised Spider Recording Scheme was launched in 1987, replacing the scheme that was started in 1964 and has since fallen into abeyance. The new scheme has the following objectives:

- * To determine the geographical distribution of each species of spider found in the British Isles
- * To record the arachnofauna of selected sites of particular concern to nature conservation, and other areas whose habitat potential might be threatened

- * To provide opportunities to extend our knowledge of the biology of spiders, with special consideration of their habitats, seasonal occurrence and population dynamics

The aim is that, in 1997, at the end of ten years of field work and other types of recording, enough information will be available to publish a provisional atlas, probably based on the 10km squares of the national grid, illustrating and as far as possible accounting for the distribution of spider species in the British Isles.

The Biological Records Centre is working in close conjunction with the British Arachnological Society to develop the Spider Recording Scheme. There is a national organiser, Clifford Smith, who is supported by a number of area organisers, each of whom is responsible for gathering information from one of more counties. Records collected by the area organisers are passed on to BRC via the national organiser, after being checked at each stage.

As with most national recording schemes, there is a danger of the information collected merely indicating the distribution of recorders. This problem is magnified in areas of relatively low population levels, and also when the subject material is unpopular, as with spiders. Interestingly, many of the northern English counties are quite well covered, for example Durham, Northumberland, Lancashire and West Yorkshire. Most of the southern counties are very poorly covered, so any southern enthusiasts here's your opportunity!

Collecting, preserving and posting

Due to the number of habitats occupied by spiders, a large variety of collection methods have been devised, from the simple grubbing about in a habitat to the setting of pitfall traps or artificial birds' nests.

For those not wishing to go to such lengths, the odd chance encounter will offer an easy opportunity to collect a specimen.

Unfortunately, the positive identification of the vast majority of British spiders involves the need to kill the specimen. However, spiders are generally so numerous that collection dur-

ing the scheme will only amount to an insignificant proportion of any particular population.

The ideal killing and preserving fluid is a 70% dilution of alcohol. As this is not always available, an alternative is anti-freeze.

For postage the specimen should be placed in a small water-tight container, an old 35mm film container for example, when a specimen tube is unavailable. Labels should be in pencil or alcohol/water proof ink, and specimen tubes should be packed in a way to minimise the risk of disturbance or mechanical damage during transit.

The national organiser is: Clifford J Smith, 7 Malton Way, Clifton, York, YO3 6SG, tel York (0904) 625928

Dormouse Survey

A survey of dormouse sites is being undertaken by the Mammal Society. The survey is based on sites which contain abundant hazel; although this shrub is not a prerequisite for dormice, examination of hazel shells can reveal their presence. Dormice chew a hole in the side of the nut, not in the end, and there are no teeth marks on the cut face.

The objective of the survey is to establish the minimum size of woodland required to maintain a viable population of these animals. Some woods may be too small, so that in these cases it would not be worth undertaking the specialist management required to provide suitable habitat. The survey will also establish guidelines for the sort of woods suitable for the reintroduction of dormice.

Contact: Paul Bright, Conservation Officer of the Mammal Society, Zoology Department, University of Bristol, Woodland Road, Bristol, BS8 1UG, tel 0272 303030 extn. 3805

A 32-page booklet about managing woods for dormice, entitled "A Practical Guide to Dormouse Conservation", is available from the

Mammal Society, Dexter House, 2 Royal Mint Court, London EC3N 4XX, price £1.50 including p&p.

Water vole survey

The water vole, *Arvicola terrestris*, may have suffered a nationwide decline: since 1908, when "The Wind in the Willows" was published (the water vole is often misnamed the water rat), numbers seem to have dwindled, perhaps due to river bank clearance or American mink. The Vincent Wildlife Trust is asking for reports of any sightings or observations, to provide a comprehensive coverage of the country's populations. Please send records, with dates and location, and grid reference if possible, to the project coordinator, as below.

A stratified survey is also being undertaken, using the system of land classification evolved by the Institute of Terrestrial Ecology. Much of eastern Britain has been covered already, and initial results reveal that the water vole is surprisingly common in peat bogs, even as far north as Caithness.

Contact: Rob Strachan, Vincent Wildlife Trust, Dexter House, 2 Royal Mint Court, London EC3N 4XX

Suffolk mammal survey

Mammals are amongst our most familiar wildlife and yet in Suffolk comparatively little is known about the distribution of many species. To remedy this the Suffolk Mammal Survey is being organised. It will run for the next five years and its aim is to produce precise distribution maps for all Suffolk's mammals. This is a survey in which everybody can participate; many species, such as Hedgehog, Rabbit and Mole for example, are easily identified.

For further information contact Martin Sanford at the Suffolk Biological Records Centre, c/o The Museum, High Street, Ipswich, Suffolk IP1 3QH.

National bat survey

A national bat survey is to be launched this year, based on the 1 km squares used for the national badger survey. Volunteers with bat detectors will be asked to survey their areas during 4 nights in the summer, listening and looking for feeding bats.

The objective is to discover which habitats are most important for feeding bats: much effort has been put into conservation of bat roosting sites, but there is very little information on what habitat bats need around these.

People interested in participating should contact: Stephen Harris, National Bat Survey, Zoology Department, University of Bristol, Woodland Road, Bristol, BS8 1UG

Bat records at NCC

The 1981 Wildlife and Countryside Act required that NCC is consulted before any action likely to disturb roosting bats is undertaken. The result of the Act, in addition to improved bat conservation, has been a gold mine of bat roost location data flowing into NCC offices. NCC has two schemes to cope with this information, the "BATDATA" system and the "Bat Sites Database".

BATDATA

The BATDATA system was the immediate response to the provisions of the 1981 Act and has been functioning since 1982. The system runs on the NCC's mini and micro-computers with data entered at NCC headquarters and the regional offices. Two situations will lead to the entry of records onto BATDATA:

- * a bat enquiry which contains useful biological data, ie. good evidence for the location of a bat roost, or
- * any situation where NCC is required by law to be involved on a bat issue

BATDATA can boast some 11,000 records, which have recently been summarised by Dr Tony Mitchell-Jones in "The Distribution of Bats in Britain 1982-87 as revealed by enquiries", *Mammal Review*, in press. Some of the BATDATA records have been transferred to the Bat Sites Database which is an attempt to provide a more comprehensive picture of the distribution of bat roost sites.

Bat Sites Database

In April 1989 Stephanie Maude of the Department of Applied Biology and Biotechnology at Leicester Polytechnic completed a one year contract for NCC to collate and computerise a national bat sites database. The initial idea was to collate records for underground roost sites, with special attention being paid to roosts containing either of the two horseshoe bat species. At the end of the year 267 records for the greater horseshoe and 627 for the lesser horseshoe were safely on computer, with well over a 1,000 roost sites identified in 31 counties. The project also collected site data for exceptionally large roosts of species other than the horseshoes, and 13 species are now represented in the data set.

The database has been transferred to the NCC's PRIME mini computer, and an ADVANCED REVELATION version linked to a mapping program (PLOT5) has been developed by Tony Mitchell-Jones. The data set includes quantitative information where it has been recorded and it will be used to generate bat roost distribution maps at various resolutions so that NCC staff can integrate bat roost site protection information into their responses to planning authorities and general case-work. Underground roost sites are a classic example of a wildlife resource that is "known about" but almost impossible to find out about if you don't have the right contacts. Understandably, underground sites are easily overlooked and simple distribution maps can have a very significant role in allowing for effective site protection measures.

The bat site database project turned out to be a very good way of involving organisations and individuals with interests in holes which did not relate to bats. For example, good relations were forged with the Association of Industrial Archaeologists and the caving

community. Bat site data bring the recorder a nice little twist to the confidentiality problems encountered by all who collect and release data. Many bat roosts are in private houses and the data release policy for the database has to address "sensitivity" issues uncommon in national recording projects for other groups.

Tony Mitchell-Jones has been adding to the database since the completion of the work at Leicester Polytechnic and he estimates that the database now covers some 1,600 sites. There are plans to devolve the relevant sections of the database to each NCC region, but at present there is no formal relationship to the data collections of the evolving local bat recording schemes. The database relied heavily on the efforts of local bat workers and bat groups but as yet only a handful of the 70 bat groups have their own computerised site databases. Subject to confidentiality constraints data from the database are available to "bona fide" enquiries.

For further information contact Dr Tony Mitchell-Jones, Nature Conservancy Council, Northminster House, Peterborough, PE1 1UA, tel (0733) 40345

Scottish plans for a phase 1 manual

David Mellor writes:

Over the last two years the Biological Recording in Scotland Campaign (BRISC) has been trying to find a way to produce an up-to-date affordable guide to habitat recording which works at the right level for amateurs but, at the same time, produces results of a high enough standard for the professional uses to which such work is increasingly being put.

I only really know about the experience in part of the amateur movement in Scotland; maybe other areas have a different development. Most of the habitat mapping over the last 15 years appears to have been carried out using

a scheme employed by Dundee Museum back in the mid-seventies (seems so long ago!) This was a few sheets of paper showing a simple classification scheme with appropriate subdivisions and colour codes.

This scheme was copied from place to place and no doubt evolved along the way. I have seen some versions which have quite a bit of variation. It was only about two years ago that, whilst planning a campaign to promote more recording, BRISC realised that a fairly serious review of the scheme and its documentation would help the thing along.

We decided to see first if anyone else was doing a similar review, and were assured from several directions that there was no such competition. Just as we were figuring out the next step we all got our first look at the NCC Phase I manual. A whole book about recording with a scheme fully described within. Yippee! Then we discovered that this was only a draft, it wasn't easily available and, worst of all, it was significantly different from our previous scheme.

We deliberated on upgrading to the new programme or staying with the old method: upgrade, we had to look ahead. We thought our contribution would be to produce a simplified (in presentational terms) popular version of the big Phase I manual. We checked again - all clear, no competition for our product. We set to work, revised the text, laid out the keys, condensed, tightened up and so on.

Then we discovered that someone in Peterborough had been commissioned to do a similar thing. We sent our near finished text down south to show what we thought was wanted. Next thing we heard was the whole scheme had been dropped. Phase I surveying was being abandoned (*but see below - editor*). Instead a complete review of habitat assessment leading to a multi-volume bible on British habitats is being produced (*presumably the National Vegetation Classification - editor*).

End of Story? I don't know. It does seem to BRISC that a reasonable basic field surveying methodology easily used and widely available is still needed. There are surely large areas of countryside not yet field searched for those

sites of local interest. More importantly, there are always new generations of "amateurs" wanting a reason and a method to help them get to understand their own areas.

I think BRISC this year will be pressing on with its own little habitat manual. Maybe we will get a grant to publish it, or maybe it will be swapped from photo-copier to photo-copier in the time honoured tradition.

Enquiries (and offers of interest) to: David Mellor, Paisley Museum, High Street, Paisley, Strathclyde tel (041) 889 3151.

A note from the Editor:

A senior member of NCC HQ staff assures me that there is no truth in the statement that NCC is no longer supporting Phase 1 Survey, or that they think all the country has been mapped sufficiently well. What is more the Phase 1 survey manual will be published in a matter of months.

Well I hope so too. A lot of NCC (ie. public) money went into the first (very good) draft of the manual produced in about 1984. In addition, many other people gave freely of their time to provide information on survey techniques and comments on the draft, including myself. I'm sure the draft would have considerably assisted many people designing and carrying out survey work during the last six years. I know it would have been invaluable to me when I designed the London survey in 1983, and the survey would have been better for it.

A few years ago I and a colleague gave a course to London Wildlife Trust staff on habitat survey. Of course I turned to the phase 1 manual, but I was only able to obtain a copy from NCC after pointing out that I had contributed to it. I was told I could not copy it, and only managed to get this reversed by phoning a senior member of NCC staff whom I happened to know.

Why does NCC spend so much time and money on promoting and supporting phase 1

survey, yet prevent access to material which greatly assists in carrying it out effectively?

The Biological Records Centre's first 25 years

The Biological Records Centre, at Monks Wood, is now well into its 25th year. Below is a summary of current staff and work, extracted from the BRC Newsletter.

BRC Staff

The present staff of BRC are as follows:

Head: Paul Harding
Data Manager: Claire Appleby
Botany: Chris Preston and Jane Croft
Invertebrates: Brian Eversham
Vertebrates: Henry Arnold
Butterfly Monitoring Scheme: Tina Yates
Data Processor: Wendy Forrest

National Recording Schemes

The national schemes are the foundation upon which the BRC is based because they are the main sources of data. There are currently 62 national schemes covering a total of 16,000 species of terrestrial and freshwater plants and animals. The computerisation of data is a continuing process; nearly 4.5 million records of 8,500 species are now in the BRC database.

Several new or revised recording schemes have been launched in recent years. A complete list of schemes and their organisers is available.

Current work at BRC

Only the main projects in each topic are listed; for further information please contact the relevant staff.

Botany

Aquatic plants database and atlas

This is an 18-month project to complete a database of submerged and floating vascular

plants. A second phase of the project is planned which will cover emergent species. The results will be summarised in an Atlas of Aquatic Plants.

BSBI Handbooks

BRC has already provided maps for the *Carex* and *Charophytes* volumes in this series of identification handbooks. Current work is on data and maps for the volume on *Potamogeton* and allied genera and for selected species in the *Cruciferae* and *Rosa* volumes.

Updating the database

This is an on-going process of improving the database for vascular plants with new and more detailed records, including those from the BSBI Monitoring Scheme.

Bryophyte Atlas

This is now virtually complete with a 3-volume atlas going to press over the next 2 years.

Invertebrates

Odonata

The database is now virtually complete, with over 110,000 records. Draft text has been prepared by Prof. Norman Moore and the atlas should go to press in mid 1990.

Diptera: Brachycera

Maps and draft text for an atlas covering 150 species are prepared, and the provisional atlas will go to press later this year.

Coleoptera: Carabidae

Data for ground beetles are being processed at present and will result in an important new provisional atlas in 1991.

Other groups

Data have been processed and maps have been prepared for publication of provisional atlases of *Coleoptera: Coccinellidae* and *Coleoptera: Staphylinidae (Omaliinae)*.

Vertebrates

Mammals

Data for the atlas of mammals are now computerised and draft maps will be available soon. Plans for an atlas are well advanced.

Amphibia and Reptiles

As soon as work on mammals is completed, the database for herptiles will be compiled, leading to an atlas in late 1992.

Butterfly Monitoring Scheme

Following staff changes in 1989, the opportunity was taken to incorporate the Butterfly Monitoring Scheme as one of the BRC projects. In 1989, 94 sites were covered by the scheme and a similar number is planned for 1990. The results of the 1989 transects have been analysed and a report is in preparation. Links between BMS and BRC data are being made, particularly in relation to changes in the ranges of some species.

Atlases published recently:

Seaweeds (1985), *Coleoptera: Elateroidea* (click beetles) (1988), centipedes (1988), *Diptera: Sepsidae* (1986), harvest-spiders (1988), millipedes (1988), and woodlice (1985).

BRC leaflets:

Current atlases of the plants and animals of the British Isles - lists 70 titles, covering all major groups of plants and animals.

New atlases from the Biological Records Centre - details and order form for atlases published since 1985.

National Biological Recording Schemes - names and addresses of scheme organisers.

Record cards - lists all current BRC record cards.

Coded check-lists of the flora and fauna of the British Isles - describes BRC computerised check-lists, their contents and availability.

Butterfly Monitoring Scheme - general information and lists of publications.

Butterfly Monitoring Scheme - Instructions for independent recorders - describes the methods used by the Scheme to assess changes in butterfly numbers by making regular surveys.

**Contact: Biological Records Centre,
NERC, Institute of Terrestrial Ecology,
Monks Wood Experimental Station,
Abbots Ripton, Huntingdon, Cam-
bridgeshire PE17 2LS, tel Abbots Rip-
ton (04873) 381**

The Somerset Environmental Records Centre

The Somerset Environmental Records Centre (SERC) has 3 full-time graduate staff: the director, a survey manager and a computer operating secretary. In addition there is a part-time computer operating secretary and eight graduate employment trainee surveyors.

The Centre received an advance set-up grant from the County and Local District Councils for 3 years, as well as 20% of its budget from the Somerset Trust for Nature Conservation (STNC), income from data sales, and from special surveys and evaluations done as consultancy subcontracts for "Somersite", STNC's consultancy venture.

The Centre is managed by a committee with membership from the STNC, Somerset County Council, Local District Councils and NCC. The STNC chairs and has a vote, but the SERC Director has no vote. The finances pass through STNC, who can control them.

Data bases on geological, biological and soils information are held. For manual systems, geological and biological sites are on 10Km X 10Km base maps with data on standard forms for each site, tetrad and 10Km square. On computer, "Recorder" is used for the main sites database, "Ecobase 3" for individual species projects and "Vespan", "Statigraphics" and "Dmap" for analyses. (The Centre is represented on the "Recorder" technical group as one of the three trial Trusts.) The Centre is purchasing "ArcInfo" for integration with "Recorder", plus a Calcomp plotter for all storage and use of map data.

The Centre's customers are:

- * County and Local Authorities: submissions for Local Plans and responses to Planning Authorities
- * Commercial enquirers: notice of sites
- * National Authorities (NRA, NCC, FC): notice of sites and site data
- * Conservation bodies (STNC, other Trusts and Societies): site and species distributions
- * Scientists (Universities, Government Institutes): site data, environmental factors
- * Private individuals (Trust members and landowners in Somerset): species and habitats

The Centre receives fees for data sales direct to customers, special surveys and evaluations done for commercial customers through "Somersite". The charges are:

- * data sales are charged at £25.00 per hour for office work. No charge for original survey. Private individuals and local conservation bodies are not charged
- * Consultancy work is charged at normal ecological consultants' rates. STNC can overrule all charges if it so desires.

The main products in 1989/90 were:

- * 5 Local Plan submissions
- * 315 planning and forestry applications serviced
- * 6 commercial enquiries and consultancy ventures carried out, the largest for AEA Harwell (indirectly) on Chernobyl fallout

**Further information from: M. Ander-
son, SERC, Hestercombe House, Ched-
don Fitzpaine, Taunton, Somerset
TA2 8LQ**

The Suffolk Biological Records Centre

The Suffolk Biological Records Centre is run as a joint venture between the Suffolk Naturalists' Society and the Natural Sciences section of the Museums Division (Leisure Services, Ipswich Borough Council).

The Centre aims to store information on all wildlife and geology in Suffolk. This includes an up-to-date record of over one thousand sites of natural history interest in the County. The data are made available for conservation, research, monitoring, education and general information. The Centre also promotes the publication of guides, surveys and scientific works on Suffolk wildlife.

There is open access, by appointment, to the majority of records held at SBRC; enquiries from the general public are welcome and are answered as part of Ipswich Museum's services. A charge may be made for time-consuming searches and for photocopying information.

Information comes to the Centre from many sources, including specific surveys, published journals and correspondence from amateur naturalists. There have been recent surveys of butterflies, reptiles and amphibians, orchids, dragonflies, non-marine molluscs (slugs and snails) and the barn owl. There is a five-year survey of breeding birds in Suffolk under way which has already produced over 20,000 records.

For further information contact Martin Sanford at the Suffolk Biological Records Centre, c/o The Museum, High Street, Ipswich, Suffolk IP1 3QH.

Hampshire's Environmental Records Centre

Hampshire needs its Environmental Records Centre not only to "take stock" of its rich wildlife habitats but also to assess and monitor them in the face of increasing development pressure, and to cope with demand for information from the Districts, consultants and an increasingly aware general public.

To provide some of the required data, the County Planning Department has been collecting site-based information on sites of high nature conservation value for the past 10 years. Surveys have been carried out on ancient woodland, heathland, chalk downland and species-rich meadows in conjunction with the Nature Conservancy Council and the Hants & Isle of Wight Naturalists' Trust. The data are used to identify Countryside Heritage Sites and to safeguard sites generally from development.

Some 2000 sites have now been surveyed and the data entered into APL Data Interface files on computer for storage and analysis. For each site the following details are provided:

Grid reference, name of site or plot number, survey date, site area, geology, parish/district, species list (with special emphasis on "indicator species"), vegetation types (NVC or Peterken), management and nature conservation status.

Similarly, the County Museums Service has been collecting species-based information and entering it onto a computer database for the past 11 years. Approximately 20,000 records have so far been entered and this information is used to look at species distribution in the county.

The County Council has recently bought ORACLE, a relational database using SQL, on which all site-based and species-based information is currently being loaded from the existing data bases. ORACLE is also being

used by the National Biological Records Centre at Monks Wood, and discussions have been held to ensure that the same format and standards are being used, to allow the transfer of data in the future.

However, a great deal of potentially useful data collected by local recorders in Hampshire, perhaps as part of a national recording or monitoring scheme, is by-passing the Museum and the Planning Department and going straight through to the national BRC. This kind of data could be invaluable in helping prevent development on particular sites or in guiding the management of a site.

To avoid this situation, Hampshire County Council must make contact with all the recorders who cover Hampshire and persuade them to part with their data in the knowledge that it will benefit nature conservation generally in Hampshire. A newsletter could be produced to ensure feedback between the different groups.

It would need to be stressed that only the County Ecologists and the Keeper of Biology would have access to the raw data. The NCC, the Naturalists' Trust and other *bona fide* organisations would receive data in a more "manipulated" form, depending upon the nature of their request.

**Nicky Court, Countryside Group,
Hampshire County Planning Department,
The Castle, Winchester, Hampshire
SO23 8UE, tel (0962) 846741**

Amphibian and reptile conservation in Suffolk

The Suffolk Wildlife Trust plans to produce a strategy for the conservation of amphibians and reptiles in Suffolk, and to tie this to practical management initiatives. Specifically this project would entail:

Establishing a review of the status of amphibian and reptile populations in Suffolk
For the rare species (adders, grass snakes and

great crested newts) this would also involve identification of sites with known populations. For adders and possibly grass snakes, it would also include detailed site information, including mapping of boundaries and identification of key site features such as feeding areas or hibernacula. Due to the large number of great crested newt ponds in Suffolk, this level of detail would not be feasible for them, but a list of known sites should be drawn up.

Completing a Suffolk amphibian and reptile conservation strategy

This would establish the exact conservation requirements for each species. Such requirements would include site safeguard needs and management requirements. It would identify priority species and priority regions of Suffolk for the concentration of effort. It would attempt to identify reasons for fragmentation and decline of populations to reverse such a decline.

Producing instructional materials and demonstration sites

The theory aspect would be backed up with practical action through:

- * The production of specific advisory leaflets, one for amphibians and one for reptiles. There is a plethora for the former, many of which are totally unsatisfactory (e.g. one which recommends removal of dragonfly larvae and diving beetles from ponds as they eat tadpoles!), and there exist few for reptiles. There is a clear need for a balanced, clear and attractive advisory leaflet.
- * Management demonstration sites where interested persons (landowners or other bodies) could come and see appropriate, positive amphibian and reptile management techniques in use. These would be on prominent SWT reserves.

The Suffolk Naturalists' Trust may use the information produced through the project as the basis of a "popular" publication on Suffolk amphibians and reptiles.

Martin Sanford, Suffolk Biological Records Centre, c/o The Museum, High Street, Ipswich, Suffolk IP1 3QH

It came from the compost heap...(the invasion of the sinister flatworm)

The flatworm *Artioposthia triangulata* is causing a good deal of concern amongst those with an interest in our common earthworm. *A. triangulata* is indigenous to Australasia, notably New Zealand. It was first discovered in Northern Ireland in 1963. Since then it has been sighted elsewhere in the British Isles, especially in northern England and Scotland (where it was first spotted in a compost heap in the Royal Botanical Gardens, Edinburgh).

It is strap shaped, tapering at either end, usually 10mm in width and between 125 and 150mm long. It is generally dark purplish brown in colour, with a lighter margin running down both sides. The head is pale pink with a row of minute black eyes on either side. It normally resides in moist places, such as underneath wood piles, boxes, sacks, slabs and, of course, compost heaps!

The flatworm is somewhat partial to the earthworm as a source food and appears to be very effective at preying upon it. Being considerably more mobile than the innocent earthworm, the flatworm wraps itself, "python-esque", around its victim and commences to digest it from without, utilising its powerful, highly acidic digestive juices. With such advantages over its prey, its potential effect on populations of one of the gardener's best friends is worrying, to say the least.

So what is being done to monitor the spread of this grizzly predator? The Department of Agriculture for Northern Ireland has been monitoring the spread of *A. triangulata* in the province, since its discovery in the sixties. Research has indicated that the principal mechanism for its spread seems to be via market garden sales.

Progress with RECORDER

The RECORDER software system has been installed at three county wildlife trusts, six local record centres and two borough planning departments in the past few months. The package is now running at 20 external sites for trial and evaluation purposes.

Upgrade version 2.21

Dr. Stuart Ball (NCC) has issued a further upgrade that incorporates new mapping facilities, some modifications, and irons out some of the bugs.

The Technical Group

At the User Group meeting held last November a technical group was formed to oversee the final development of the package prior to full release. The group has met twice to draw up specifications for documentation, software, modifications and handling of geological data. The group members represent the interests of local centres, county wildlife trusts, RSNC and the NCC together with technical expertise from WCMC and ANTEC Ltd. The group members are:

Dr Tony Irwin, - Norwich Museum
Mark Anderson, Somerset Environmental
Records Centre
Lloyd Austin, Lincolnshire/South
Humberside TNC
Sarah Hawkswell, RSNC
Charles Copp, ANTEC Ltd
Peter Fraser, ANTEC Ltd
Peter Rooney, World Conservation
Monitoring Centre
Dr Stuart Ball, NCC
Nick Phillips, NCC
Philip Dutt, NCC
Shaun Thomas, NCC

RSNC

Meirion Jones, who left in January, has been succeeded by Sarah Hawkswell who started on 12 March. RECORDER will be featured in a biological recording session at the RSNC na-

tional conference to be held at Nottingham University on 20-22 April.

Final Release

The date for the final release has not been fixed yet as it depends on progress with documentation and software modifications. The first documentation draft should be complete by the end of March. NCC still hopes for full release in May/June 1990.

**For further details please contact:
Philip Dutt, Nature Conservancy
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borough PE1 1UA, tel (0733) 40345
ext 2283**

Bar recording: can bar codes help biological recording?

Introduction

Whilst shopping in supermarkets I have tried to imagine how the combination of mirrors and some sort of laser could possibly read the bar code on my yoghurt carton, given the indifference of the check-out person and the angle at which he/she casually whips the carton across the glass plate. From this speculation I began to wonder if bar codes could be of any use in biological recording projects. After a quick piece of product research it became clear that bar code scanning systems were available for the PC (IBM compatible personal computer) and through the kind assistance of Mr K. Langford of Altek Instruments Ltd I obtained an Altek Keywedge Barcode Identification system (6533/1) to try out for the purposes of this review.

The methods of reading (scanning) and writing bar codes are discussed later, but to convince you of the ease and reliability of using bar codes on recording forms I designed a database entry screen to accept a species and habitat codes in various fields. I then produced a series of alpha-numeric bar codes on a 9

pin dot matrix printer (figure 1a) and used a mock-up record form to enter imaginary records. The Altek bar code reader "read" my codes on 80% of scans over the codes. Since each failed scan is likely to be corrected by a repeat scan, this read rate was sufficiently high to avoid irritation, although the successful read beeps of the bar code reader would be difficult to tolerate in a packed office. Practice would improve the scanning success rate, as would laser-produced bar codes. My tests on the laser bar codes supplied by Altek (figure 1b) gave a successful scan rate of greater than 95%.

Fast data entry

Codes versus Popups

Data entry in computerised biological recording projects is notorious for the time it takes and problems of accuracy. Many techniques can be employed to speed data entry and improve accuracy. Coding systems improve speed but decrease accuracy. With the modern fast PC screen graphics, data entry can be via the selection of items from rapidly scrolling lists (popups). However, popup or other sophisticated screen techniques to ease data entry require programming expertise to set up and are not standard features on all software used to record biological data. Matching screen words to the layout of a form is still slow compared with someone entering codes directly from a form without looking at the screen. Codes can become very familiar but the human eye, fingers and mind can all generate errors not perceived by the person entering data.

Computer eye

If the computer could read the codes directly from the recording form I think that this would out-perform the other data entry techniques available to us. Computers can read printed characters but the technology for this is still slow and expensive. The bar code system has been designed so that cheaper technology can reliably read coded information. Scanning a record card line by line, or box by box, could lead to data entry limited only by the

speed of movement of the hand and the error rate in scanning codes.

When could bar codes be useful?

Lists of options

The most obvious target for bar codes is species lists, but many recording projects also have structured and encoded habitat, community and environmental data recording systems. Bar coded recording forms would need all possible "options" (species, habitats etc.) to be on the form with their printed bar codes. To get an idea of how this works, wander into a TV sales shop and look at how the cards used for programming videos are laid out. The cards have 31 bar codes for the day, 7 for the day of the week, 12 for the hours, 60 for the minutes etc. all on a card equivalent to A4. We are used to putting complete species lists on recording cards but often require habitat and environmental data to be written in.

Overlay your cards

Obviously bar coding would require the revision of some recording literature, but where a small number of things are being recorded, for example dragonflies, breeding birds, just habitats, the existing cards might be sufficiently uncluttered for an overlay containing bar codes to be developed. The overlay would need cut out areas to register accurately with the card underneath it and further cut out areas to see quantities or comments written against each option. Overlays would be useless for cards where options are underlined, ringed or struck through.

You are probably thinking that your plant or beetle card could not be adapted to bar coding, but could its reverse side contain a coded list of habitat options? Or if you have a small number of recorders each producing a large number of cards why not print cards with their personal code on them, or print labels with personal codes to stick on the cards. Labels could include combinations of recorder codes and site codes which could be stuck on cards to save writing by field recorders and to save handwriting interpretation during data entry.

I envisage that bar codes would be most useful in projects returning very high numbers of cards each of which recorded relatively few items, for example a survey of bat flight sightings by volunteers throughout GB.

Ideally we should use recombinant DNA to make sure that each organism shows its bar code in its phenotype, so that automatic scanners could record the beasts without human intervention. Oh well, just a thought.

Reading bar codes

Bar code systems

Bar codes use combinations of bars and spaces to encode information. The codes are more than a simple binary system since the width of the bars and spaces has meaning. Coding systems vary in the width classes they use and there is a compromise in code design between readability and the total space taken up by a code. Groceries are plastered with EAN bar codes named after the European Article Number Association. Fortunately biological recording does not have to conform to such retail standards and there are two handy coding systems suitable for our applications. For example, the coding system "Interleaved 2 from 5" is a compact code for numbers only, while "Code 3 from 9" will take letters, numbers and punctuation.

Many recording schemes use complex many-element recording codes. These would produce long bar codes which are difficult to fit on cards and unreliable to read. Long recording codes are usually unnecessary in modern relational database design and if you have long codes there will be many benefits from streamlining them.

Magic Wands

The Altek keywedge reader is a "wand" reader, with a light source at one end of a pen-sized object which is wiped across the bar code, interpreting the bars and spaces as it moves. Wands are obviously susceptible to variations in the speed of hand movement and to non-linear motions of the hand. However, a combination of a check digit at the end of each

code and ensuring that all codes are the same length (for example by the use of leading zeros) can ensure that every scan that returns a code is accurate. With variable-length codes a scan stopping half way through a bar code might return a false value, with a fixed-length code the receiving program can check for the length of each code. The wand is connected to a small box which has an "inkwell" for the wand when not in use.

The keywedge reader is connected between the keyboard and the computer using standard keyboard cable adaptors. Either the keyboard or the bar code reader can be used without one interfering with the other. The bar code reader sends the digits or characters it interprets from a bar code to the computer just as if code had been typed in. In my test database screen I was able to mix text and code entry choosing the bar code reader when it seemed the fastest option. Since the bar code reader is acting as if it was the keyboard, bar codes can be read into any program without the need for special drivers (programs which turn the signals of a device into something the computer understands) or application programming. I read bar codes into word processors, spreadsheets, databases and to the DOS prompt.

Hand-held readers

The majority of the hand-held computers, for example the PSION organiser, can be fitted with wand bar code readers and this system of recording bar codes is widely used in retail and security systems. However, since not many animals come ready bar coded I can't think of a biological recording application for mobile bar code readers. At around £250 for a PSION with reader I suppose a hand-held could be seen as the cheapest way of reading bar coded forms. It is possible that if a hand-held was regularly circulated between a group of recorders, data could be entered into machine readable form without any of the recorders needing to buy a computer. The data could be transferred to a central PC for further checking and analysis.

Bar guns

You may have seen bar code readers which have a wide head which is placed over the code and when a trigger is pressed the code is read. These gun readers should have a lower failed scan rate than wands since the variable reading conditions arising from the motion of the wand are eliminated. Mercury Design produce a gun reader which is connected to your PC by an expansion card (the expansion card contains the chips and circuitry necessary to decode the bars and slots into special expansion slots inside the casing of the computer). The Mercury gun reader, at circa £800, is relatively expensive, over twice the cost of the Altek bar wedge, and is designed for programmers who want to have full control over when the bar code reader is used.

Writing bar codes

Now you are convinced your computer can read bar codes and they are going to save aeons of time, how can you produce codes and place them in the appropriate position on recording cards? The options range from simple BASIC programs to dedicated bar code printers.

Bars from dots

The majority of recording projects can get access to dot matrix printers. Even the humble 9 pin dot matrix printer can be made to produce bar codes by programs which set the printer into "graphics mode" and control the printing of 8 dot high columns of dots. The Altek Keywedge system is supplied with a suite of programs to print bar codes on the Epson range of printers, although any dot matrix in either Epson or IBM mode may work. The programs are written in BASIC and variants are compatible with GWBASIC, BASICA, QUICK-BASIC and LOCOMOTIVE BASIC, which should be a sufficient range to allow any IBM compatible PC to run the programs without further outlay. A sample of codes from my experiments in producing 2 from 5 and 3 from 9 codes on an Epson FX1050 is shown in figure 1a. The programs are very clearly written and could easily be adapted or elaborated to meet your printing needs.

Programmed bars

Bar code printing software is commercially available; for example see the Software Paradise catalogue. M.A.S.S advertise a "super labeller" product which allows bar codes to be embedded in ASCII text files. For people wanting to experiment on a small budget, programs are available through shareware libraries, for example Britsel or PD software library. (Shareware are programs which are distributed at a nominal cost for evaluation; if programs are adopted a registration fee to the author should be paid). Most bar code programs assume that you will be wanting to print codes on labels, though I'm sure that some of the dedicated form design programs support bar code printing. Another option I've spotted is a program to integrate bar codes with Dbase.

The ultimate printed bar

Laser printers offer the best solution to bar code production. With print resolutions typically in the region of 300 dots per inch, a laser can print scannable codes much smaller than a dot matrix printer. Figure 1b shows the size range and clarity of a laser-produced 3 from 9 bar code (courtesy of Altek). Many laser printer manufacturers offer bar code as a softfont. A softfont is a font (a set of characters or symbols of a particular style) which is read from a file on disc and loaded into the memory of the printer. The font can then be called by commands in DTP or word processing programs. If you can't afford a laser to design your own record cards then you can pay an agency to do the work; many of the high street fast print chains now support PC compatible laser printing.

I would like to thank Altek Instruments Limited for the supply of a scanner and for their advice and patience.

Contacts

Altek Instruments Ltd, Enterprise House, 44-66, Terrace Road, Walton-on-Thames, Surrey, KT12 2SD, tel (0932) 244110.

Britsel Data Services Ltd, Albert House, 10 Albert Road, Bournemouth, Dorset, BH1 1BZ, tel (0202) 559199.

M.A.S.S, Freepost, 53 Dereham Road, Norwich, NR2 4BR, tel (0603) 630768.

Mercury Design Ltd, Portslade, East Sussex, BN4 1PD, tel (0273) 424525.

PD Software Library, Winscombe House, Beacon Road, Crowborough, East Sussex, TN6 1UL, tel (0892) 663298.

Psion Plc, Psion House, Harcourt Street, London, W1H 1DT, tel (01) 723 9408.

Software Paradise, Avenue House, King Edward Avenue, Caerphilly, Mid Glam, CF8 1HE, tel (0222) 887521.

Figure 1: Samples of bar codes; all are using the 3 from 9 system.

a) Bar codes produced on an Epson FX1050 9 pin dot matrix

SUC5



SUSO1



b) Bar codes produced on a laser.

123ABC



123ABC



123ABC



Code 39

Lawrence Way, Nature Conservancy Council, Northminster House, Peterborough, PE1 1UA

An alternative to bar codes?

I (now rather dimly) remember seeing, in 1982, a computer system for a large betting-by-phone business, which seemed easily adaptable to biological recording.

A client phones to place, say, £1 on Red Rum, £2 on Desert Orchid, and £3 on Arkle running at Sandown Park in the 2.30 (yes, I know, an impossible combination!). The operator has in front of him/her a card listing all horses in all races that day. This card is affixed to a graphics tablet (digitizing table), and acts like a menu system. The operator inputs the bet by touching "Red Rum" with a mouse or wand, then £1 either via a keyboard or a subsidiary menu with the numbers on it; then the other bets similarly.

Evidently the menu of races and horses has to be changed daily; there is, therefore, easy and quick to use software for creating new menus/forms. You could get a surprisingly large number of entries on the menu, I think about 400.

Surely this system, slightly adapted, would be ideal for inputting data from recording cards? Each card would be placed carefully on the graphics tablet. Those entries crossed through would be touched by the operator using the wand. If values (eg. DOMIN) were also to be entered, these could be via another menu at the side or via the keyboard. The system could be easily adapted for different cards, as with different horses and races.

Meg Game, editor

Biological survey training at Otley College of Agriculture and Horticulture

The profile of biological surveying is rising rapidly and, as the pressures increase on the countryside, the constraints within which it operates are tightening.

Biological surveying, in a more or less formal way, has always figured in decisions relating to land acquisition and management for conservation. Now, the field of operation is widening and planners and developers are falling over one another to show that they have taken account of all the ecological implications of their proposals.

It is undoubtedly in the interest of biologists and conservationists that these professionals are well served by the "experts" to whom they turn for information and guidance. Judgements must be made on full and reliable information. Data must be easily accessible and presented in a comprehensible form. We must learn the rules of the big business environment in which our information is used, learn to meet deadlines, to present our message clearly and stylishly, to be professional about tenders and costings. All this applies most, of course, if we are asking people to pay for it! We may need to make some adjustments, but if we do not we will fail to get our message across.

There is a need for a uniform approach. There is a plethora of well established practices in the surveying and recording world and people are still out there reinventing the wheel. Of course there are gaps, and valuable innovations are appearing all the time; new technologies are drawn in from many directions, from pocket dictaphones to electronic bat detectors, from satellite imagery to computer graphics. Are we incorporating them wisely into a well thought-out structure, or are we custom-building incompatible systems? The more techniques proliferate, the harder results produced are to evaluate, both for biological

surveyors and for professionals in other fields whose job it is to assess the significance of our message. Perhaps the move towards providing a professional institute for practitioners, and developments in the establishment of industry standards, will help to un muddy the water. Be prepared.

The need for professional training in biological surveying came to the fore in the heyday of the Manpower Services Commission, and has grown and crystallized since then. At Otley College, in Suffolk, we have developed a range of training courses which aim to meet the needs of the modern biological survey scene. Students are drawn from a variety of backgrounds but are united by a remarkable level of motivation. Through the range of the subject a wide spectrum of ability can be accommodated and it is important to balance courses to suit the extremes.

The higher level courses appeal to an interesting mix. On the one hand we have students highly experienced and committed to perhaps a specific group of plants or animals, or to practical conservation. On the other, we have an intake from Universities or Polytechnics with first or even second degrees in biological subjects, conscious of their lack of practical experience.

Without doubt, the skills gap which most urgently needs to be filled is in plant identification. It can be taught; we teach it. Why is it not an integral part of basic biological training? It is what is wanted in the market place.

Apart from plant identification training, we ensure that a basic level of ecological and geological background is covered, especially to students for whom the theoretical aspects of the subject are relatively new. We cover the main established methodologies in a wide range of habitats and groups of organisms. We give the students instruction and practice in landscape interpretation, field craft, physical surveying and quantitative ecological work. Basic statistics are covered, data sources and data handling procedures are reviewed. The courses contain an introduction to the conservation and planning legislation within which biological survey has to operate, and to the procedures involved in Public In-

quiries and Environmental Impact Assessment. The students are given opportunities to meet and see in action some of the clients and potential employers for whom they might work.

We work closely with all the major conservation bodies and are in touch with the standard methodologies that are in place. In many cases we have active participation in the running of teaching blocks in specific areas from the people who are involved at source, so the NCC helps to deliver our modules on National Vegetation Classification, the BTO those on Common Birds Census, ITE and NCC are involved in our invertebrate training, and specialists are brought in to teach identification skills in specific groups of plants and animals.

The course is a nationally validated qualification, endorsed by the Royal Society for Nature Conservation, and several County Wildlife Trusts use it to provide training for their own survey teams. By using a system of intensive training of trainers and providing back-up material, we are already delivering it through ET to the Scottish Wildlife Trust and to Conservation Training Wales, and can explore alternative methods of delivery with any interested organisation. We have been running now for three years and ex-students are working for Trusts, Local Authorities, RSPB, several consultants and NCC.

It is the need for professionalism that should be emphasised, not necessarily the need for professionals. What should not be allowed to happen is the that the role of the amateur in field recording be supplanted or squeezed into a corner, or, on the other hand, exploited. Everyone involved should be aware of the way data must be used now. Some of the most professional information available is produced by amateurs.

Rachel Hamilton, Otley College of Agriculture and Horticulture, Otley, Ipswich, Suffolk IP6 9EY

Publications

The following NFBR publications are available:

Biological Recording and the Use of Site-based Biological Information (1984)
£4.00 (members), £6.00 (non-members)

Biological Recording Forum (1985)
£5.00

Biological Recording in a Changing Landscape (1986)
£5.50 (members), £8.00 (non-members)

Biological Recording: the Products (the proceedings of the 1987 Annual Conference held in Bristol)
£4.00 (members), £6 (non-members)

The proceedings of the 1989 conference, "National Perspectives in Biological Recording in the UK", are now being printed, and should be with delegates imminently, if indeed they have not already arrived.

Copies are available from: National Federation for Biological Recording, c/o The Museum Documentation Association, Building O, The Paddocks, 347 Cherry Hinton Road, Cambridge CB1 4DH, tel (0223) 242848

Forthcoming publications

In 1990 the Suffolk Biological Records Centre will be publishing "Orchids of Suffolk - an Atlas and History", with maps and glossy pictures. This is the second publication from the SBRC, following "Butterflies of Suffolk". Volumes planned for 1991/92 include dragonflies and non-marine molluscs, with a new bird atlas and avifauna around 1995.

Contact: Martin Sanford, Suffolk BRC, c/o Ipswich Museum, High Street, Ipswich, Suffolk, IP1 3QH, tel (0473) 213761

In October a new flora of north-east Essex will be published. It is based on records dating from 1980-1989, but will also include infor-

mation on records back to the 1830s, as well as line drawings. DMAP was used to produce the maps, which are on 1km squares. Prices for the 280 page B5 (slightly larger than A5) book are: £8 + £2.50 p&p, or £5.50 + £2.50 p&p for orders received before 1st July.

Contact: Jerry Heath, Colchester Museum Resource Centre, 14 Ryegate Road, Colchester, Essex CO1 1YG