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NFBR / NBN Conference
July 2nd and 3rd 2004 at the National Museum of Wales, Cardiff
- G.Walley, Nottingham Natural History Museum

Natural Partners: biodiversity observations and collections

This was a very useful conference to attend which is really saying something. All the speakers were informative and the range of topics was comprehensive. Whilst acknowledging the wider world's limited appreciation of the importance of natural science collections this meeting celebrated them and their role in supporting records and being the basis of the whole wide natural sciences. The main action taken away by the NBN and NFBR is to promote the importance of collecting and collections on their websites and in their publications. To this end a list of Recommendations was produced which is to form the basis of their future work in this important area.

Summary of the presentations: after going through my notes and my memories several themes seemed to recur –

- The historical and biodiversity importance of collections is not recognised at every level.
- There is a real and vital role for collections in formal and informal training of local natural historians.
- There is not enough modern collecting, and too much data collected without specimens. The responsibility of statutory bodies and research funding bodies needs to be highlighted.
- This is an exciting time for access to data and collections need to be a part of it, or miss out!

The presentations:

Session 1: chair Bill Butcher, NFBR Chair

Ray Woods, Science Advisor for the Countryside Council for Wales, gave the ***keynote address*** covering the need for accurate information to inform conservation decisions and how collections are part of that information base. Within Wales Ray gave a brief history of the increasing awareness of the specialness of the local Welsh landscape, the need to conserve habitats and species, and how changes in agriculture and industrial needs were permanently altering it at an increasing pace.
The loss of a whole system of SSSI quality meadows in Wales due to agricultural change was a spur to more protection that eventually arrived as the 1980 Wildlife and Countryside Act. Lichens are Ray's specialism and he gave the example of a Smith specimen of Lobaria amplissima (an extremely rare species in Wales) from a collection being used to target modern survey work leading to its re-discovery, and helping to get agreement from the land-owner to manage the site to maintain the species. Part of the convincing lay in there being a specimen in historic times from the same place, which was more special than a paper record, from the owner's point of view, and part came from the wider historic distribution that museum specimens pointed to, now reduced to one known site.
Ray finished with his increasing interest in forming an archive of local landscape photographs and postcards, which can contain a wealth of clues to species and management information.

Chris Palmer, Senior Keeper of Natural sciences, Hampshire Museums and Archives Services, spoke on the ***Functions of museums and record centres and how they have changed.*** Chris spoke from the point of an important regional museum, with its own accidents of history, from Dodo bones to comprehensive collections used in genetic research, and a museum which has made a major contribution to local biological and geological recording throughout its history. As well their usefulness in supporting individual observations their role in identifying species was crucial. Despite this Chris noted the lack of appreciation of the importance of collections amongst local naturalists, in contrast to local historians who used and supported theirs. Attempts to promote collections as the local natural history collections seem especially vulnerable to disposal and for some reason are often not appreciated as history in the way objects are. In display they have

tended in recent years to be used to display natural processes rather than diversity. Chris noted the need for museums to be a key partner in the management of the local LRC, and to provide a curation service for local voucher specimens. He concluded with the hope that collections will again be seen to be central to local environmental information management, and that this meeting would lead there.

The form and function of archival systems was addressed by Neil Thompson, Head of Data and Digital Systems at the Natural History Museum. Neil is an archivist by training and it interesting to hear his view of paper records when most of the audience was museum curators and environmental data managers. Archives were described as being, generally, unpublished, unique material, available for reference only, non-current, selected and collected for a purpose. Archivists tend to keep perhaps 15% of what is available – so spend a lot of time deciding and encouraging others on what not to keep. Archives are concerned to maintain the provenance of all items and any original order, and to keep donated material separate. Their curation looks towards stable conditions and storage materials, the removal of staples etc, and the conditions of access, and adequate descriptions to encourage their use. The separation of notebooks from specimen collections is a loss for the archive as well as the collection.
The legal framework that affect archives include the Freedom of Information Act 2000, Data Protection Act 1998, Environmental Regulations 2003 (based on the EU directive of 1992) and the Modernising Government White Paper – where all government records are to be archived in electronic format.
Digital archives have their own problems, especially the migration of media and formats, and the risk that a certain archive may be dependent upon one ageing equipment that cannot be repaired or replaced. To complete our concerns Neil reminded us of the limited life of CDs – which are the mainstay of most current archiving. Neil ended with a summary of his present interests in meta-data and collection-level descriptions. The European project Biocase is collecting very basic collection descriptions of all living and preserved collections with the NHM as the UK node. The Nature Collections in the UK (NCUK) is aimed at producing a more detailed and complete collection-level description within the UK. It was somewhat alarming for the ancient CRU members in the audience that the regional work of museum curators or FENSCORE weren't mentioned here, especially as they have provided BioCase with 80% of the current European entries. These developments are a tribute to that early attempt, supported by BCG, to produce a way into the whole of the museum collections in the UK. [Post-conference it is clear that FENSCORE will be part of NCUK].

Charles Copp, of Environmental Information Management, Clevedon and the Natural History Museum, London gave a typically lively summary of the current bio-data world, full of whizzy things with whizzy acronyms. It was entitled ***Use of technology in providing access to information about biodiversity***. I'll await his paper so I can sort out the Semantic Webs, RDFs, Ontologies, Agents and Digital Signatures. He started with the obvious and serious point of who all this data is for and how can we make it more accessible? Charles finished with the importance of real information, improving decision-making and education. Especially at a time when science is being reduced to being another belief-system rather than measurable reality, where creationism can be given the same scientific weight as evolution.

Session 2, chaired by Jim Munford, Programme Director of the NBN Trust.

This session began with Adam Rowe, then head of the Biodiversity Information Service of the Powys and Brecon Beacons National Park speaking on the subject of ***Local and regional biodiversity networks and LRCs – recent developments***. Here the regional demands on environmental data can be expected to increase as more powers and resources are funnelled through the regions. The South West pilot project is an illustration of how independent LRCs can work to common standards and produce common data products, for example habitat inventories. This relies on complete LRC coverage and on adequate individual recorders and their coverage. Adam suggested that one key LRC role is to link local recorders to the NBN. The current project in Wales of building an LRC network with the support of the Welsh Assembly is recognition of the importance of having a sustainable system of environmental data collection and analysis. The National Museum in Wales has a recognised role for maintaining museum specimens as vouchers of records and so is an important precedent. Adam recognised that data usefulness is based on its quality, which is based on the knowledge and experience of the recorders. In many groups there is a clear role for museums, with their collections, expertise and facilities to have a greater role here. However how many are resourced to do training, and how many are resourced to receive specimens in any quantity? Adam finished by suggesting that LRCs should be at the forefront o validating local data, but few do, preferring to add caveats

putting the responsibility back to the recorder, who often will be unknown to the end-user.

Lawrence Way from the Joint Nature Conservation Committee spoke on the wider data context under the title of ***Links between national and international biodiversity and collections networks.*** Looking at the global need for common data-sets, especially with regard to shared resources such as the oceans, Lawrence took us through a range of projects that had a web presence such as OBIS, Ocean Biogeographic Information System (www.iobis.org), GBIF, Global Biodiversity Information Facility (www.gbif.org), Fishbase, a global information system on fishes (www.fishbase.org) , Seamap, part of OBIS, concerned with marine vertebrate populations (www.seamap.env.duke.edu/). REMIB is a Mexican initiative that started as a country-based biodiversity data project that has subsequently extended to the wider world (www.conabio.gob.mx/remib_ingles/doctos/remib_ing.html). Lawrence suggested that international pressures are developing databases that will track invasive species, share data on diseases and disease vectors, and encouraging countries to consider their wildlife as one of their major natural resources.

Adrian Spalding of Spalding Associates (Environmental) Ltd spoke on ***Developing Networks of Data Suppliers***. Adrian shared his experience of working with and analysing the work of national macro-moth recording scheme (www.mothrecording.org.uk/index.php). From his survey it was clear that the main concerns of recorders centred on the use of their data, data validation, the increasing use of computers and the benefits and complications of that, the need for a practical method of describing habitats. It is estimated that 20% of recorders don't pass on their records to anyone. The percentage of recorders who are urban or rural proportion is 20% and 80% respectively. There has been a huge increase in recording in recent years. It is clear that many recorders do not understand the need to collect and kill specimens and have little sympathy for it. There is more interest in using photographs for verification rather than taking specimens. Many recorders are keen to work with and learn from museum specialists although many have the idea that arranging to meet an expert is difficult, or the collections are old and faded, and they would not be welcomed. There's clearly a lot of work here for museums to do.

Steve Tilling, Director of Communications, Field Studies Council completed the presentation part of the meeting with a talk entitled ***Engaging the public: outreach, training and education***. He gave a whole range of statistics that showed the continuing interest of the general public in the natural sciences, but a decline in interest in school-based biology (perhaps losing out to geography?) and especially the use of field techniques. The FSC quizzed forty UK environmental agencies and consultants and found that 80% had had difficulties in recruiting biologists with field survey experience. Another concern has been the reduction in people's reduced 'love and appreciation of the environment' reported in recent newspaper articles based on UK research. More research by the Wellcome Trust identifies that 'whole-organism biology' such as ecology is regarded as less important by A-level students than the more experimental molecular biology, and this view is re-inforced and deepened as they pursue their university studies! (go to http://www.wellcome.ac.uk/en/1/pinpubacteduisclif.html for a copy of the report). The FSC's own research suggests that nearly a third of PGCE students aiming for a career in teaching biology have two days field experience! The slightly better news that Steve was able to report was that the need for field ecologists was now being recognised by the DfES.

The three ***workshops*** concentrated on Data Validation (led by Trevor James, NBN Development Officer), the Management and the Role of Collections (led by Mike Wilson, head of Entomology, NMGW) and the Management and Role of Archives (led by John Edmondson, head of Collections Management and Research, Science, Liverpool Museum). These deserve to be written up in full, but not here; they fed into the plenary session.

The ***Plenary Session*** moved quickly on to a draft set of Recommendations, which were to be worked up by the conference officers led by Trevor James. The delegates agreed these and the subsequent final (-ish) version is attached.

An excellent meeting.

Key resolutions and recommendations from the Conference:

1. The Conference affirmed that a key link between biodiversity data and biodiversity collections is the role of collections in underpinning long-term data quality.

2. The Conference confirmed that there has been a serious decline in resources to manage biodiversity collections across the UK, and that this is largely a direct result of the increasing divorce between these collections and the process of collecting and using biodiversity data.

3. The Conference recommended that biodiversity data collectors and managers should aim to ensure the long-term viability of data, and should adopt mechanisms to ensure that these data are supported by reference to relevant collections where necessary.

4. The Conference recommended that collectors of data should describe their responsibilities to ensure that, where appropriate, records are underpinned by the collection of specimens, and that these are maintained for the future.

5. The Conference recommended that biological recording schemes and societies should actively formalise their relationship with relevant local and national taxonomic expertise, and promote more formal agreements with appropriate museums and other holders of collections over the use and deposit of specimens.

6. The Conference recommended that museums which hold biological collections should actively seek to engage with local volunteer networks and expertise to support and reinforce the maintenance and use of these collections as an archive of voucher or related material and as a resource to underpin the local collection of records.

7. The Conference recommended that the National Biodiversity Network Trust should actively pursue the issue of a statutory need to be recognised for quality biodiversity data to be made available in the Environmental Assessment process, parallel to the situation for archaeological information.

8. The Conference recommended that the National Biodiversity Network Trust should actively support the need for biological collections to be used by local biodiversity partnerships to underpin their data.

9. The Conference recommended that all biodiversity organisations should seek to promote the links between biodiversity collections and the collection of data, and to encourage collaborative approaches to the funding of collections through formal partnerships with users of biodiversity information.

10. The Conference recommended that the National Biodiversity Network Trust should develop best practice guidance, with partners, concerning the long-term management of natural science archives, including electronic data and "grey literature".

11. The Conference recommended that relevant organisations should seek to encourage professional training and accreditation for staff involved in biological recording, particularly in local records centres.

12. The Conference recommended that the Museums Association and The Museums, Libraries and Archives Council be asked to promote the development of regional/local "hubs" under the "Renaissance in the Regions" programme, especially in relation to biological collections and their use with respect to biological recording.