



NATIONAL FEDERATION FOR BIOLOGICAL RECORDING



*Sharing Information about Wildlife*

***Natural partners:  
biodiversity observations  
and collections***

Report of a conference  
held at the National Museum & Gallery of Wales, Cardiff  
2<sup>nd</sup> – 3<sup>rd</sup> July 2004

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## ***Background to the Conference***

The National Federation for Biological Recording's Annual Conference in 2004 was held jointly with the National Biodiversity Network Trust, and was expanded to a two-day event in order to examine an increasingly important topic in more detail.

The objectives of the Conference were:

- To examine the apparent divergence between field observations, collections and natural science archives, especially the role of museums in biodiversity documentation.
- To consider issues of data quality, validation, networking, inter-operability, and access to biodiversity resources (such as information, records, specimens and natural science archives).
- To examine progress in integrating the collation, management and provision of access to these biodiversity resources.
- To consider what future action might be needed in these areas and to make recommendations.

The NFBR has long had an interest in this subject, as it was established as an organisation largely by professional museum biologists in the mid-1980's, who were involved in the fledgling business of biological recording as part of their work. In turn, the National Biodiversity Network Trust was born from initiatives largely originally promoted by the NFBR. Both these organisations, therefore, recognise the seamless relationship which ought to exist between biological collections, natural science archives biodiversity data and engaging the public in the subject. The fact that these areas appear to have drifted apart is or should therefore be of fundamental concern to all those involved.

Cardiff Museum very kindly supported the Conference by making their facilities available at a substantially reduced rate, which is gratefully acknowledged by the Conference organisers. Their staff also took an active part in the Conference, and have a great interest in its outcome.

This report was compiled by Trevor James, NFBR Council member/NBN Development Officer for National Societies & Recording Schemes, October 2004.

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## Day 1: Presentations

### Morning Session.

**Chairman:** Bill Butcher, Chairman of NFBR, Trustee of the NBN Trust and Director of Somerset Environmental Records Centre

Participants in the Conference were welcomed by the Chairman for the morning, Bill Butcher, who outlined the historic link between biological recording and the collection of natural science specimens. He also highlighted the premise of the Conference: that there is an increasing divide between the two. The aim of the Conference was therefore to seek ways to bring these two sides of the same coin together again, and to formulate recommendations to that end. The National Biodiversity Network, as a focus for the use of biodiversity data, is an appropriate mechanism to help with this.

**Keynote address:** Ray Woods, Science Advisor to the Countryside Council for Wales.

Ray opened the Conference with a thought-provoking consideration of how “records”, “specimens” and conservation are indivisibly linked, by firstly demonstrating how up-to-date and accurate data underpin sensible conservation policy. He reflected on some early problems with sites in Wales and elsewhere which were identified on the basis of old data, but which were subsequently found to have been destroyed. In these sorts of cases, the old records formed the only proof that such species had existed, and gave an insight into the drastic effects of landscape change. These kinds of problems, and the data which gave the evidence, were the spurs to making effective conservation policy in the UK.

Historic records are also especially important as a support for conservation action, because they give a basis against which modern information can be judged, and can sometimes lead to new insights. In their turn, specimens form a vital back-up of these historic records. Ray gave an example provided by the local lichen *Usnea articulata* which has a current distribution in the south-west, with mostly very old records from further north, such as at Burnley, where its occurrence might be doubted but for the existence of good specimens. Another example from Wales comes with the survival of specialist species of ancient woodland, such as species of *Lobaria*, in sites which were once historic wood-pasture parklands, and where the species has subsequently been found in modern landscapes, like the grounds of Hafod in central Wales. Such finds allow us to understand the nature of ecological continuity, and have led to increased protection for ancient trees and the landscapes they inhabit. Without the survival of historic specimens this kind of protection might never have been possible.

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## ***The functions of museums and records centres and how they have changed:***

Chris Palmer, Senior Keeper of Natural Sciences,  
Hampshire Museums & Archives Service

There is no telling what value collections of biological material might have in the future. A classic example might be the re-evaluation of the Dodo's appearance and biology which historic specimens have provided.

The Museums, Libraries & Archives Council have stated that

*“Museums...stimulate, fascinate and educate. They satisfy our curiosity about the world and enlarge our understanding of the past and present”*

Another example of the unforeseen use of collections is that of the use of historic collections of multiple specimens of butterflies for DNA analysis of populations. However, much historic material in local museums has limited data attached to it, and this can make it of limited use. Nevertheless some specimens also provide the only real confirmation of the existence of species in the past, such as the specimen of the robber fly *Choerades gilvus* in the collections of Hampshire Museums – confirming the last record from Britain.

Historic collections also play an important role in linking with the expert local natural history community, who frequently take an active role in working with the collections. The collections then also become an important training and teaching resource in their own right, encouraging the next generation's interest in the environment. However, the recent rise in interest in the natural environment presents museums with a challenge. While some places, like the Wakes at Selborne, home of Gilbert White, attract much attention, getting support for the core work of museums in maintaining important reference and research collections becomes increasingly difficult. Many new developments are carried out purely in order to maintain profile. In the meantime, mainstream natural science activities in museums tend to be side-lined, and are prone to cuts. Natural science collections, therefore, tend to be the least well supported area of museum collections. This problem is exacerbated by museums not being a statutory function. There is always a pressure on staff to justify their existence. The cost of maintaining voucher specimens, with specialised storage facilities, climate controls and visitor provision, is often quite high, while interest by governing bodies in the subject, as compared with the arts, is often low.

Museums have in the past used their collections as “props” to explain the subject of ecology, but with an increasing concern about the collection of specimens, there has been recently a tendency to move away from their use at all. This is a great mistake, because the use of specimens in teaching and awareness-raising is ultimately the only way to interact with the real thing.

The saviour of many collections over the last 30 years has been their link with biological recording. However, there is always a danger that the collections then get seen merely as subservient to data. An important role of museum collections is to support the activities of amateur naturalists, and the reward for the museum in the longer term is the acquisition of more and better, up-to-date collections. Many museums also have become

involved with the development of local records centres, although more often than not these were developed on shoe-string budgets. The idea of the “local records centre” has also developed since 1991, and has culminated recently in the issue of the NBN position statement on local records centres.

However, this has also led concurrently to some problems:

- A reduced role in local records centres for partnership with museums. The NBN position statement is, actually, to some extent a lost opportunity to re-emphasise the role of museum collections.
- A lack of recognition of the role of voucher specimens in recording. Again, the NBN position statement makes no mention of the need for vouchers.
- The advent of “mass recording” is resulting in related problems, particularly the tendency to overlook the need to support data on difficult groups with specimen collections.
- The lack of a nationally-focused system for maintaining voucher specimens.

A museum now seems to need to be part of a local records centre partnership merely to survive. The NBN itself could be seen as a threat if it were to undermine this local partnership.

The conclusion is that museums need to be much more proactive in engaging with the voluntary sector. However, museums cannot do this alone – they need to work in partnership with others, and notably with local records centres and the users of their information.

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*Questions and answers:*

*Q.* Is there any guidance available on what vouchers are needed?

*A.* It depends on what the source of the data might be. This can only be judged according to individual taxonomic groups. Individual recording schemes or groups need to define what is needed.

*Q.* Is there a need for museum biological collections to go down a similar route to archaeology in terms of funding support?

*A.* Yes. There needs to be formal support for biological collections which are made in the process of carrying out surveys for development proposals, and for their deposit in museums.

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## *The form and function of archival collections*

Neil Thomson, Head of Data & Digital Systems,  
The Natural History Museum

Libraries and archives tend to be two sides of a coin:

### **Libraries**

Published documents  
Multiple copies  
May be borrowed  
Maintained to the MARC\*  
standard  
“Ego”

### **Archives**

Unpublished material  
Unique copies  
For reference only  
Maintained to ISAD(G)\* standard  
“Id”

\*MARC: MACHine-Readable Cataloguing

\*ISAD(G): (General) International Standard for  
Archival Description

Only some 15% of official records held by a body are really useful as archives. However, this does not apply to informal (i.e. not official) “archives”.

There are a number of discrete functions in operating an archival system. Firstly, there will be a formal process of acquisition and selection. Archives are defined by their structure, and by their provenance. There is a standard approach to their description and their conservation and preservation for the future needs to be considered. Finally, provision of facilities to access the archives is needed.

In acquiring archives, an initial decision needs to be made as to what is kept, and who is to keep it. There is a legal framework for this kind of decision. This needs to take into account the provisions of the Freedom of Information Act 2000 – which requires a public authority to produce an “information access scheme”. We also need to take into account the Data Protection Act, 1998; and the Environmental Information Regulations, 2003. Under the “Modernising Government” White Paper, issued in 1999, all public authorities have a target date of 2005 to make information and records available to the public. This presents those maintaining natural science archives with something of a challenge.

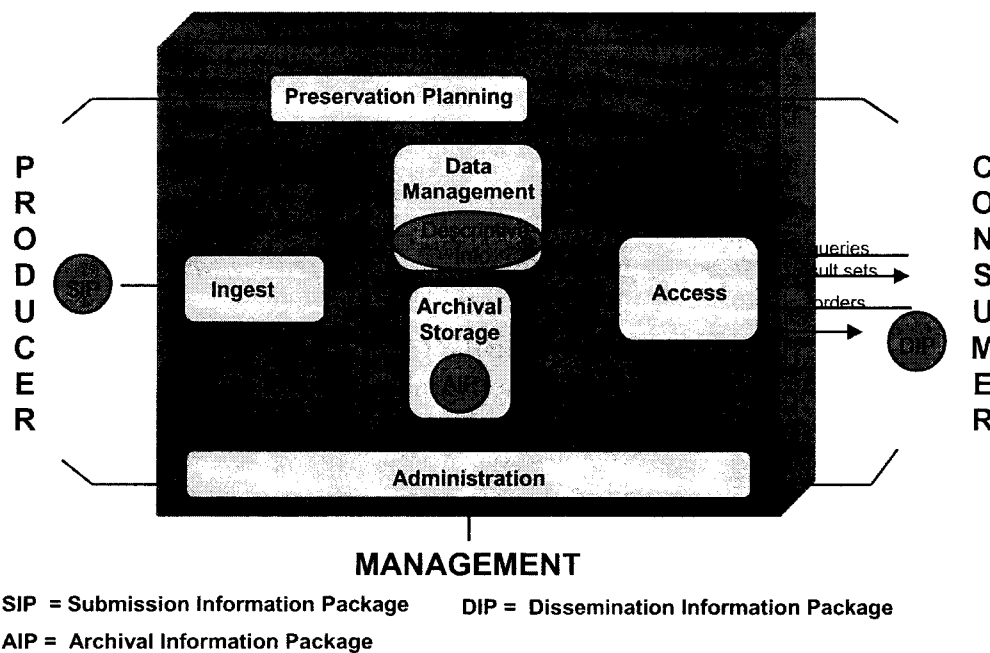
Digital records present us with more of a challenge. They include both the original records and “preserved” copies. Documentation of digital data is more difficult. An extra layer of technology on top of the records is needed. This takes the form of “metadata”. For this, standard formats need to be defined. Metadata also needs to allow us to have fore-warning of potential access problems, such as the incremental loss of accuracy through the transfer of data. So, “digital sustainability” might include the following considerations:

- The nature of the electronic documents and records
- Understanding the difference between “preservation digitisation” and “digital preservation”
- The physical formats and electronic data formats that the records are in

- What is involved with data migration, emulation and refreshment
- The combination of the unique content of particular data and generic problems, which jointly give us the respective possibilities for collaboration with any one set of records

The central point is that digital data curation is not being effectively recognised as a need. “Benign neglect” is no longer an option. Effective digital curation and sustainability for the future need to be emphasised. We are, in fact, in danger of entering a “digital Dark Age”.

No one organisation can tackle the issue on its own. A standard approach has therefore been developed: the Open Archival Information System:



More details can be found in “British archives: a guide to archive resources in the United Kingdom” by Janet Foster and Julia Sheppard, Palgrave, 2002 (4<sup>th</sup> ed.). There is also a Linnaean Society guide to the deposit of natural science archives. Most local records centres are not in a position to store either natural science archives or specimen collections. A collaborative approach is therefore needed to avoid a loss of the links between data and vouchers etc. Use of “interoperable” data systems, such as the National Biodiversity Network, can help with this.

The use of standard approaches to the description of collections can help re-unite dispersed collections. Work on this has been progressing slowly for many years. The BioCASE Project<sup>1</sup> is the most recent and continuing development, looking at a distributed search service and collections description processes.

<sup>1</sup> Biological Collection Access Service for Europe ([www.biocase.org/](http://www.biocase.org/))