NEWSLETTER

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EDITORIAL -

This issue contains many interesting contributions, many of which discuss various aspects of biological recording. Charles Copp's paper could well provide a sound basis for discussions at the forthcoming seminar at Leicester.
The contribution from Keith Francis resulted from a very interesting meeting on biological recording at Oxford County Museum under the AMSSEE flag. It is hoped that the editors may be able to include some contributions from other speakers at this meeting in a future issue.
We have had our article in its finished state for over two years as an emergency reserve and now seemed like a useful time to publish it.
It has been heavily biased towards biological recording of late, but that is the subject which members seem most eloquent about. If you are sick of hearing about it then why not write an article on another slant.

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If you are definitely going to the Leicester seminar, please confirm this as soon as possible so that some firm plans can be made. Another booking form is included with this Newsletter. The closing date for accomodation has been extended. If in doubt, contact John Mathias.

THIS IS URGENT. PLEASE DO IT NOW!

Even if you are only going for one session.

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ERRATA -

Many of you will have noticed that an unfortunate mistake was made with Paul Harding's paper in the Newsletter Vol.3 No.8. Please note that pages 447, 448, and 449 should precede page 446.

Letters

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26th April 1984

Dear Sir,

BIG BRUM'S CLANGER

For those readers fortunate enough not to know the city, I should explain that the ediface erected in 1885 as a Museum & Art Gallery is surmounted by a prominent clock-tower known as Big Brum, Birmingham's proud answer to Westminster's Big Ben. The clanger refers of course to the striker which sounds the great bell to mark the hours for those who labour in the museum below.

Events have not stood still in this busy place since last issue of the Newsletter, in which your correspondent was flattered by an unsolicited testimonial from Michael Diamond. Unfortunately for him and for me also, the "substantial extra space" allocated to the Natural History Department which he referred to in his letter is soon to be taken from us by he who giveth (the Chief Executive). This results from a directive by the city's General Purposes Committee that "prime office space" (including that within the Museum) should not be used for storage (i.e. housing the collections). My only consolation in this predicament is the knowledge that I saw the possibility of this happening long before the Authority conceived its present policy (see my letter in BCG News vol 2, no 4, p117-8 of September 1979).

The Natural History Department just happens to occupy the offices selected for the city's Development & Promotion Officer. We are expected to vacate our 4,500 sq ft of offices, laboratories, work-rooms and collections by end of July. As a party of council members toured the accommodation, one was heard to remark "We have waited 25 years to get hold of this". It leaves one wondering why Birmingham deserves a Museum! The Department has occupied these rooms for less than 7 years and for the first time they provided an adequate environment for conserving and developing collections of national significance (see item on the STONE Herbarium in this Newsletter). I should not bet on retaining equivalent conditions when the next move is accomplished.

Yours faithfully,

Brian Abell Seddon

Brian Abell Seddon
Keeper (Natural History)

LOCAL RECORDS CENTRES AND ENVIRONMENTAL RECORDING - WHERE DO WE GO FROM HERE ?

C.J.T.Copp - City of Bristol Museum & Art Gallery.

Much has been written about the need for and functions of local biological and geological record centres (for instance see the bibliography in Stewart 1980). Recent surveys of centres and their activities include those of Greenwood & Harding (1981,1982) and Whiteley (1983). These surveys together with the list of biological records centres in Britain and Ireland compiled by the BRC show that there are at least 60 local records centres active in some way and there are certainly others founded in the last ten years which have ceased to function.

The Problem

Many of these record centres were formed in response to or at least took encouragement from the Leicester conference on centres for environmental recording (30-31 March 1983) and the subsequent visits of the then head of BRC, Franklyn Perring. Perring saw local record centres as a useful filter between the amateur naturalist and the statutory bodies, collecting and distilling distribution records to suit BRC's 10km mapping requirements. The BRC was intended to become the focus of a well-coordinated national network of recording centres acting as a font of inspiration and fulfilling a much needed pastoral role. This much at least was attempted through Flood & Perring's (1978) Handbook for Local Record Centres and continues in the production of recording cards and the occasional publication of useful lists of national mapping schemes.

In practice this grand scheme was doomed to failure and has failed for a number of reasons. Most importantly is the lack of financial backing. In the absence of central government funding it has been left for each area to fend for itself as best it can. Some centres have flourished,even growing into major regional data-banks,especially those adopted by local authorities or under joint authority and county trust auspices. Few however, could claim to be fulfilling all the roles which might be expected of them and far too many are languishing for want of recognition.

In recent years there has been a major upsurge in record centre activities thanks to Manpower Service Commission money, but surely this is 'building on sand'? What provision is being made for the time when MSC withdraw their support (as is rumoured every year)? There are also centres which are flourishing through the devoted energies of single individuals, what provision for the future is being made here? The loss of continuity under these circumstances is a major threat to a record centre's credibility and damaging to any activities which have become based on the centre. In the absence of a national strategy for environmental recording even the big metropolitan based databanks are not safe from local government changes which could affect their financing.

A second major reason for the failure of Perring's planned national network was that it did not take account of how the BRC's own position would change. The most recent description of the status and policies of the BRC published by Harding (1984) lays stress on the change from the original interest in distribution mapping to an increased emphasis on detailed site records, made possible, it is claimed, through the introduction of more extensive computer facilities. The BRC relies heavily on the NCC for funding and is therefore primarily committed to satisfying that body's requirements for site data, with presumably little time left for local records centres' requirements.

There are many dangers inherent in this change,as pointed out by Ely (1984) who rightly questions the ability of BRC to produce comprehensive reports on sites on the basis of the data currently collected. The NCC are of course filling many of the gaps for themselves, utilising large numbers of short-term contract staff both on surveys such as that for ancient woodlands and the invertebrate site register and on their statutory requirement for SSSI renotification.

All this extra survey work and interest in site records is to be applauded if one can rely on feedback to the regions and be sure that the BRC and NCC do not come to believe themselves to be self-sufficient. Unfortunately although the staff at BRC are always cordial to visitors this does not always amount to practical help. In Harding's paper (op.cit.) the list of BRC's users does not even mention local records centres nor is the use by voluntary nature conservation bodies regarded as significant. In the same list the use of BRC by professional and amateur research workers is said to be time consuming and relatively unproductive for BRC staff. The NCC is also usually cooperative, especially with local authorities and county trusts but this tends to be centred around their work on special sites rather than geared to to everyday needs for information. Even Rayner believed the NCC to be understaffed and likewise with a staff of only 7 at BRC (who also have their own research to do) it is difficult to envisage how, even with computers,the service to the regions could radically improve.

Centralisation is all very well but many of the practical day to day problems of conservation take place on a local scale and need a quick local response. It is the local records centres,county trusts,planning departments and museums that shoulder this burden. They are also responsible for the bulk of environmental education, which relies on the availability of definitive information and without which real conservation has no hope. The draining of records from the regions to a central source without recourse or feedback to local record centres is a divisive action which can do nothing for the development of the comprehensive national conservation strategy ,which we sorely need.

In the worst cases there is, I believe, a growing tendency for national bodies (NCC,BRC,National Societies) to consider local records centres to be of decreasing significance to their interests and likewise for local bodies (trusts,record centres etc.) to regard the national bodies of little practical help. Both 'sides' have come to rely on their own surveys, usually manned by temporary staff. This problem is compounded in the regions by duplication and even competition between groups with similar aims. It is not uncommon to find that local trusts, museum records centres and planning departments have all had field survey teams covering the same area which may also have been visited by NCC or even National Trust surveyors.

Each group may be acting as a quasi-record centre fulfilling its own needs. All this in addition to the on-going surveys of national and local societies, results of which may be held well outside the area. It is an interesting exercise to compare the site files produced by overlapping surveys held by each organisation to see how different they can be! Apart from the obvious waste of resources caused by this lack of communication there are further dangers in relying too heavily on short-term spot surveys. What checks are being made on the expertise of the surveyors and what is their previous knowledge of the area? In any case this work can only complement not replace long-term knowledge of a site and constant local vigilance.

A third reason for the failure of Perring's national network plan was that it did not prove practicable to divert records from county and national recorders to local records centres on any significant scale. The flow should have been the reverse of this from the national recorders to BRC for dissemination to the regions. In relation to the various national biological surveys it should surely be of concern that the BRC cannot take more responsibility for them and that the archives of virtually all these schemes are in the homes (or offices) of private individuals. This may be to the glory of the British amateur tradition and even help emphasise to BRC and NCC how much they still rely on local knowledge but how available is the information in this form? In the present situation potentially useful records, hitherto regarded as too commonplace or detailed for published national (or even regional surveys), have remained in the hands of scheme organisers and county recorders, often far away from the areas to which they relate.

What Can Be Done?

Clearly the problem lies at both the local and national level and is not so much one of lack of effort but a need for coordination and organisation. At the local level there has certainly been too much expected of record centres which in the absence of proper funding cannot function efficiently. It is because of this that disappointed potential users have been forced to go their own ways. This is how things will remain so long as there is no national policy for environmental recording and that can never come whilst the environmental lobby is so fragmented. In the

meanwhile we must accept things as they are and attempt to make the best of them and within these constraints look for ways in which our voice can be better heard.

The Local Approach

Much of the emphasis in this discussion so far has been on the accumulation of and access to species distribution records and site-related data. This is certainly where much of the national effort goes but these things should be seen within the broader context of environmentally related activities. The first steps which can be taken to coordinate these on a local or regional scale is to set about defining the Local Environmental Network. This is a task which any existing record centre could instigate however defunct it may at present be.

The instigator of the network could create a list of the various activities related to the environment and recording in a region and record who is fulfilling each function. This exercise could help point out areas of duplication or neglect and lead to a formalising of the relationships of groups to each other. Typical members of such a network would include county trusts,planning departments,museums, natural history societies, county recorders, conservation volunteers,water authorities,educational groups,NCC and representatives of other national groups with an interest in the area. Local Environmental Networks would vary in their structure across the country as they must be tailored to local 'historical' situations but all would need some organisational hub through a formal joint committee or perhaps carried on in a more informal way through an established records centre.Some areas may have already been through this exercise and have excellent networks established although perhaps not under this name but my experience in the south-west shows that many have not.

An important aim should should be to produce a local environmental policy which sets out the aims and activities of the network in a way which ensures coverage of all the potential activities and continuity if key individuals leave the area. The value of a network policy would be that it would be a reminder of what needed doing and make clear which tasks are being carried out by the various network members.It also allows for the spread of some of these tasks,such as recording,across several bodies.This is good news for record centres because better communications may take much of the pressure off them. For instance in some areas a county trust with its wide membership and close involvement with the public may be the ideal group to sponsor simple surveys.The planning department may be the body that can best afford more specific activities whereas the museum with its 'hope' of long term continuity would be ideal as a repository for the information collected. It would also be likely that museum staff are the best placed to keep an eye on recording standards and the dissemination of information through the network.

One thing which becomes clear from this exercise is that local record centres can have a very positive role to play in the network, particularly as coordinators. This is a labour less likely to cripple them than the massive transcription tasks which many have engaged in, attempting to fulfill the role that Perring envisaged for them. Indeed a record centre need not necessarily even have distribution and site records 'per se'.It could in some areas start by acting purely as coordinator of the network, maintaining the local talent files,keeping details of who has what records and acting as representative. Some of the functions which record centres may play within the network are listed in Appendix 1.

To be successful the establishment of the network must make few extra demands on the available labour as it is always the already busy people who have to take up these tasks. It must also be cheap. From what has been said it can be seen that to a large extent all that is needed is good local communication.Many will claim that this already exists in their areas but this is not universally true and in any case the existence of a formalised local environmental network would do much to unify the environmental lobby in a way that is sorely needed. I believe that this local approach could also be successfully applied on a national scale.

The National Approach

The second phase of the solution could be to create a national federation or umbrella organisation for local and regional environmental networks. This organisation could take over the role of guidance started by BRC and could become an effective mouthpiece for environmental recording. If it were a federation of local environmental networks rather than just record centres it could claim to be representative of the environmental community as a whole and thus become a credible lobby on environmental issues or to sources of government funding. By publicity and communication it could become an important force in the integration of recording into the whole framework of planning and conservation. Some of the possible aims and functions of a national federation are listed in Appendix 2.

I do not feel that it would be very efficient to start this federation 'de novo' but in the spirit of integration it would be better to look for an existing organisation that could sponsor such a group. Some suggestions of likely organisations are the RSNC,the BCG/GCG or the Museums Association. The first move, however, would be to set up a working party to outline the aims and activities of the federation and discuss the situation with likely sponsors. I believe the time is right for such a move. We are in desperate need of a national conservation strategy and environmental recording (and the role of records centres) should be included in that strategy. Perhaps these are ideas which can be floated at the conference on record centres at Leicester in September.

Apppendix 1

What Contribution can a local records centre make to the local environmental network?

1. Maintain a list of organisations and individuals involved in the local environmental network and a description of their functions.

2. Act as a focus or forum for otherwise disparate groups and individuals. Be available as a place for advice,provide space to work,company, encouragement and neutral territory between sources and users of information. Be the coordinator of the network.

3. Help avoid duplication of effort by guiding seekers to sources of information.

4. Maintain a talent file of experts both local and national who are willing to undertake identifications, carry out surveys or advise on environmental matters.

5. Offer guidance and information on standards of recording in the form of recording cards, recording etiquettes and practical workshops. This is particularly important if surveys are being conducted by non-specialist groups such as wildlife trusts.

6. Act as an archive for the 'hardcopy' associated with previous local surveys, ephemera of local societies and other natural history manuscript resources.

7. Maintain a register of all surveys (including national) both finished and current that have reference to the local area.

8. Maintain a bibliography of all works relevant to the environment and wildlife of the local area, collecting if possible as many of these together for reference.Likewise have access to complete map coverage for the area.

9. Maintain a register of volunteers willing to take part in surveys or related activities.

10. Offer employment and experience either to volunteers or through grants and temporary employment schemes. This has positive value in the promotion of the careers of dedicated naturalists and gives worthwhile experience to enrich the interest of keen amateurs.

11. Answer questions. Be able to tell a member of the public what they have seen and what its local significance is or at least guide them to the sources of such information. Provide information for teachers on sites where they can take classes for maximum interest and minimum damage. Provide information for public displays.

12. Community outreach programmes. Educate the public in environmental matters by means of general publications, lectures and walks. Organise simple surveys in which they can take part and from which they receive maximum feedback.

13. Store or have details of the whereabouts of voucher material and original source material.

14. Act as a clearing house for local records eg. species distributions,site descriptions,projects, especially aiding local societies with the transcription and interpretation of their records. Passing records onto national surveys.

15. Publish newsletters and information sheets.

16. Publish local distribution atlases and related works.

17. Organise or be involved in major local surveys that require cooperation of many groups and individuals eg. a county flora.

18. Cooperate with the BRC, ITE and NCC in their work of recording, research and conservation. Obtain information from these bodies for local feedback. National publications rarely have detailed local information and individuals may not have ready access to national data sources - act as an intermediary for them.

19. Cooperate with local planning bodies in questions of planning or creating local structure plans.

20. Participate in public enquiries of local environmental impact. The need for expert knowledge and high standards should be used to encourage cooperation and a corporate consciousness between societies and groups.

21. Be up-to-date and caring. National computer databases may be fine but **nothing** replaces detailed, current local knowledge. National recorders and officers of statutory bodies cannot be in all places at all times. It is ultimately only a well informed and environmentally conscious community that can conserve and care for the local area.

Appendix 2

Aims and Functions of a National Federation

Some of the possible aims of a national federation could include;

1. To enhance the corporate identity of local record centres and environmental networks which are at present acknowledged in only an informal manner. The existence of such a group could be important in areas as yet little organised.

2. To create a working policy for national recording which takes proper account not only of the national needs of official bodies such as the NCC and particular needs of national societies but also of local needs, and affirming the importance of the local amateur basis.

3. To integrate environmental recording into the mainstream of a National Conservation Strategy and thus provide an argument for more appropriate funding.

4. Establish formal contact with major professional bodies eg. Museums Association, Area Museums Council, Nature Conservancy and Department of the Environment.

5. To create and promote a code of standards or guidelines which local centres or networks could use to support applications for funding.The existence of a policy and proven relationships with major environmental groups would do much to gain credibility for the records centre movement.

6. To act as a pressure group representing the broad base of environmental recording to government (local and national).

7. To support local records centres and environmental networks by means of publications on methods and by providing them with useful data common to all regions.

Some ways in which the Federation could function are:

1. Set up conferences,seminars or committees to pursue a fuller understanding of the 'record centre' concept and its role in society.

2. Hold regional and national seminars aimed at practical problems and giving progress reports.

3. Publish a newsletter with items pertinent to record centres,updates on national surveys, requests for help etc. (This could be published independently or as a space in somebody elses publication).

4. Foster the interchange of information on techniques eg. cards,computers recording formats and data standards.

5. Publish information sheets on useful topics eg. how to set up talent files, how to compile bibliographies and how to carry out surveys.

6. Circulate information relevant to the files of all centres eg. lists of national recorders, surveys, experts etc.

7. Elect representatives to speak for environmental recording and networks as a body.

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THE NEED OF LOCAL AUTHORITIES FOR ENVIRONMENTAL INFORMATION

Keith Francis, County Planning Department, Hampshire County Council

1. PLANNING SYSTEM AND PRACTICE

The regulation of land use is only one function carried out by a local authority for which planning is necessary. Planning is needed for transport, the personal and protective services, recreation and so on. All these services require skilled financial planning, decisions on priorities and basic understanding of how our society functions and of how it is likely to change. They also require information on the interrelationships between society and the environment. It is necessary not only to monitor changes in the general environment but to also consider the changing emphasis placed upon different aspects of the environment. What is needed, therefore, is a ready availability of information both on attitudes and on the environment. This information must be in a form which is useful for management decisions - and also made available to the elected Members and, subject to confidentiality constraints, the general public.

The information will be used in the plans and decisions of both County and District Authorities. While most local authority services fall specifically to either the County or the District, the preparation and review of land-use plans and the making of decisions on development proposals are functions which are split between the two tiers of local government. Although there may be some intermittent - and very spasmodic - indications of central government policy at regional level, the main vehicle for expressing broad land-use intentions is the County Structure Plan, prepared by a County Council. This will normally look about 10 to 15 years ahead and has to be brought up-to-date - or 'rolled-forward' - every five years or thereabouts. Since the plans must be approved by central government and the procedure (mainly to accommodate public participation) is necessarily slow, updating often starts as soon as a Structure Plan is approved. The Plan will set out broad guidelines for the amount and general location of land needed for development including housing, industry, offices, shops and other community facilities, as well as the level of private and public sector investment needed to service the proposed development. It should also define in broad terms the land where development should not be permitted and set out objectives for the improvement and protection of the built and natural environment. In addition to their statutory duty to prepare Structure Plans, County Authorities have specific functions relating to decisions on proposals for mineral extraction and waste disposal.

Below the Structure Plan level there are a great number and variety of Local Plans produced to guide development at the local level. These are normally the responsibility of District Authorities. The plans will vary from district-wide development plans, containing the detailed development proposals needed to implement the Structure Plan, to development briefs for specific sites - for instance a recreation facility to a group of buildings to be restored. There may also be plans to regulate sailing in estuaries or rivers, define a Green Belt boundary, conserve a rare habitat, find uses for a derelict industrial site, create a working museum - the list is endless. Plans such as these, whatever they are called, may be relatively short-term or, in cases where relatively little development occurs, provide a basis for local planning decisions for ten years or longer.

In addition to their work on preparing such Local Plans, District Authorities are concerned with the Development Control aspects of planning - the making of decisions on the half a million planning applications which are made each year. The planning policies as set out in the relevant Structure, Local and other plans form a major determinant of the decisions made. However, each application is considered on its merits and other matters besides policy are taken into account in reaching a decision and here accurate and up-to-date environmental information is often of vital importance - and is required relatively quickly given the emphasis by the Secretary of State on the need to speed up the planning system.

District and County Planning Departments vary widely in size and expertise - it is very difficult to generalise. But, inevitably, County departments tend to be larger, with more expertise and information 'in-house'. District Planning Departments are usually smaller and have more need to rely upon external expertise and information. They will, however, have more detailed local knowledge. Compared to County departments they are less concerned with obtaining a picture of environmental changes over a wide area and are more likely to be concerned with information about specific sites.

2. RECENT DEVELOPMENTS

Concern for the Countryside

In recent years critical commentary and a number of causes célèbres have led planners to reconsider rural and countryside planning priorities. The passage through Parliament of the Wildlife and Countryside Act 1981, and the continuing debate which the Act engendered, has increased concern about the ways in which the structure and appearance of the countryside have been, and may in future be, affected by changes in farming, forestry and other land-uses. At both local and national levels there is a growing interest in monitoring countryside change. National initiatives have been taken by the Countryside Commission, the Department of the Environment and the Nature Conservancy Council.

Alongside this emphasis on the conservation and improvement of the countryside heritage has been an increased involvement by local authorities in local initiatives. Joint working with private owners and voluntary organisations is now seen as central to the successful implementation of the local authorities' environmental policies. The Wildlife and Countryside Act increases the scope for management agreements. Private owners may be compensated for using sub-optimal farming techniques in the interests of preserving, or enhancing, the environment. The local authority may be actively involved, not only in advice and as a source of funding, but also in the preparation, and subsequent monitoring, of schemes to manage sites of particular environmental importance.

Developments in the Use of Information Technology

Information is recorded to reduce uncertainty in making decisions. Handling information involves five stages - collection, storage, retrieval, analysis and presentation. Information technology is of increasing help in tackling all these stages - perhaps especially the last (presentation). Allied to the increasing ease of data handling made possible by the new technology is the ability to handle complex tasks efficiently and to tackle jobs not previously considered feasible. Information

systems can be built up to hold and analyse small heterogenous sets of data. In Hampshire, for example, an interactive Environmental Monitoring System is being built up*. As well as giving an opportunity to monitor the success of environmental policies, the information can be analysed to get a picture of the total environmental constraints within an area and the relationship of different features on the ground. The system is being developed incrementally and will be linked to computer graphics and mapping facilities. Several bodies outside the County Planning Department (for instance the County Museums Service, the Recreation Department, the County Archivist, the NCC, the Hampshire Garden's Trust) have already expressed an interest not only in using the information being put into the system but also in adding their own records.

Information Technology will have an increasing impact upon working practices in local authorities in the future. Enquiry services (view data) will become more widely available - allowing elected members, other organisations and the public direct access to a much wider range of information than the present. Much more information will be handled electronically via cable networks - helping to coordinate the work of authorities and allowing access to the information being held by other agencies. Finally, there will be the potential for increasing decentralisation of work, to the home or to the community.

Thus Information Technology has already made possible new, more efficient techniques - better presentation, easier retrieval of information, more flexible models and information systems. It has also helped efficiency - speeding up the handling of information and decision making. The increasing proliferation of software and hardware companies suggest that we are still at the bottom slopes of the mountain. However, it is already evident that there is a lot of scree - that Information Technology will create new problems. Information Technology cannot just be grafted on to an existing organisation without changing that organisation itself, creating the need for new attitudes and skills. The hallmark of Information Technology - the ease of access to information - may also create the need to more carefully and systematically consider confidentiality of that information. Personal data is already subject to very stringent safeguards. But there are grey areas where environmental information is concerned. Protection of rare species is one important aim of preserving the Countryside Heritage - yet it can be self defeating if too many people know of the last habitat of the snake's head fritillary! In such cases, balancing adequate confidentiality with the benefits of easy direct access by other agencies can be very complex to implement.

3. NEED FOR INFORMATION ON THE ENVIRONMENT

The main sources of information on geology, biology, land-use and environmental heritage (historic buildings, archaeological sites and monuments, historic landscapes, sites of national heritage importance, etc) are:

Information external to the authority

a. Maps - for instance showing the grade of agricultural land, surface geology, SSSIs, country sites (usually presented at different scales and drawn on various bases).

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* Further details can be supplied by the author.

b. Aerial photographs and satellite photographs - often requiring skilled interpretation, although techniques are becoming available to relatively easily produce computer mapping from photographs.

c. National exercises on land-use change - usually presented as maps.

d. Agricultural and woodland censuses.

e. Lists and documents (for instance of listed buildings).

f. Recent initiatives by other bodies - for instance NCC (surveys of ancient woodland, and now preparing to monitor change in the countryside); DOE consultants appointed to develop a system for monitoring land-use change using data collected by Ordnance Survey Field Surveyors and, in conjunction with the Countryside Commission, to monitor change in the countryside; the Open University and Farnborough Remote Sensing Unit (Land-Use changes mapped from satellit information).

Information internal to the authority

a. Information from the authority's own surveys to supplement external information.

b. Information on specific sites of interest (for instance the Environmental Monitoring System in Hampshire may hold site data on Countryside Heritage (Ancient Woodlands, Ancient Lanes and Tracks, Rivers and Wetlands, Heathlands, Chalk Grasslands, Meadows etc): tree planting; historic buildings; archaeological sites and monuments; minerals workings and other environmental constraints (such as Scheduled Ancient Monuments, Nature Reserves or SSSI).

The main characteristics of this information are:

a. Large amounts of data are produced when new areas are investigated and survey information becomes available.

b. There are many diverse and partial sources not regularly updated and often using different spatial units and media (maps, photographs, data, reports). It is often time consuming to relate different aspects together and difficult to get a general picture, especially of changes over time.

c. There is considerable expertise and knowledge required to know the sources, collate the different sources together and to evaluate their significance.

d. The environmental information itself needs relating to other information for making decisions. A typical rational decision on a particular site may involve:

- using environmental and other information to consider possible locations (sieve maps).
- considering in more detail information for possible sites (including, for instance accessibility and potential catchment areas), leading to a further reduction in the possible site.

- presenting detailed costs and benefits of a limited number of possibilities for decision by Members.

The sorts of information considered relevant to the Environmental Impact Analysis involved in this procedure can be detailed and wide ranging and is required at different levels of detail as the decision homes into the most viable site.

Information for this aspect of decision making is only one example of the needs for environmental information by local authorities. More generally, information is required for forming policies, monitoring and specific sites.

Forming Policies

Developing policies to guide development in an area requires analysis of problems and opportunities. There is often the need to relate different environmental aspects together and to compare these to other information. In general, comparable aerial units and comprehensiveness is important; detail and up-to-dateness relatively less important.

Monitoring

Monitoring the success (or otherwise) of policies and general trends requires information on changes in the environment, and intelligence on new opinions, pressures and legislation. There is the need for a core area of hard, regularly updated, information on changes between major land uses (for instance loss of agricultural land) and on recreational activity. However, the ability to quickly assemble information on topics which become issues is more effective than trying to maintain comprehensive updating of all potential aspects.

Site specific information

Information on particular sites is required for development control, local plans, planning appeals, local initiatives, sites of special interest etc. There is a wide variety of reasons for safeguarding a particular site - historic, archaeological, nature conservation, scenic, scientific. All these require individual assessment and possibly treatment and hence data for determining priorities for involvement and possibly management. Such data need to be up-to-date and accurate, especially as they may be open to public debate at, for instance, a planning inquiry.

4. THE WAY AHEAD

The diversity of the needs of local authorities for environmental information makes it difficult to be specific about the relevance of Biological Records or, more generally, environmental or archaeological records kept by the County Museum Service. My feeling is that the potential of the information has been insufficiently realised. However, the impetus to engender greater use of the data lies with the Museum Service. Local Authorities need to be made aware, not only of the nature and extent of the information, but also of its direct relevance to the decisions being made by the authority. I would suggest, therefore, that the County Museum Service contact the Chief Executive and Planning Officer of each county and district authority in its area (together with other public bodies with an interest in land, such as the CEGB and water authorities) with the following information about Biological Records (and any other

related information):

a. What topics are covered; how up-to-date, accurate and comprehensive is the information; for what areal unit can it be obtained (including the possibly of supplying ad-hoc information for specific sites rather than grid squares).

b. How the Museum's own records relate to other sources of environmental information, including any data held by the rest of the authority (if known) and why and when the Museum's records should be used in preference to this other information.

c. How far it is possible to provide an interpretation of the significance of the information: to provide intelligence rather than raw information. Few planning officers would know the relative importance of the existence of a particular species or ecology in an area - even less are they likely to react to a list of fauna and flora "found or seen in the area".

d. How the information can be obtained (a single point of contact would help); what costs may be involved (if any), and what service can be expected (how quickly can information be obtained, in what form will it be presented, etc).

e. How the service is expected to develop - are there plans to hold the information on computer and, if so, is direct access possible (note - such direct access could by-pass the filter provided by the expert and lead to problems of confidentiality - see above).

f. The neutral nature of the information and expert advice: the service provided must not be thought, however unfairly, to reflect, or be influenced by, any sectional interest or pressure group.

The views in this paper are the author's, and do not necessarily reflect those of Hampshire County Council.

BIOLOGICAL SITE RECORDING AT SHEFFIELD MUSEUM

Introduction

This article forms the third part of a series covering aspects of biological recording at Sheffield City Museums (Whiteley 1978; Garland & Whiteley 1980). Museum involvement with site recording has increased over the last decade, in part as a result of the more enlightened view of conservation by planning authorities (though still not as much as many would like). The situation has been helped by the abilities of Local Biological Records Centres to act as a central data store and an intermediary between some of the parties involved, as well as a body acquiring data in its own right.

This paper explains how the site-recording system has evolved at Sheffield and how it is used. The system is not perfect, obviously, and certain problems have arisen at times, some of which have been outlined.

Filing System

Basic Site File

The main site files are housed in a four-drawer office filing cabinet in separate, suspended files which can be removed quickly for reference to a particular site. Colour slides are kept inside these files in suspended clear-plastic sheets holding up to 24 slides each. The files are grouped by 10 Km National Grid squares (being the square which contains the bulk of the site) and are arranged in alphabetical order by site name within these groups. There are about 120 sites and these can be easily located in the file by prior reference to a master map showing the site names and boundaries. In practise, the latter stage is normally circumvented, as we are familiar with the location of most sites. The only additional part of the site file is a summary index of 8 x 5 inch cards which give the site name, boundaries and a list of literature references to the site.

Information Input

The largest input of site data occurred during 1978 when one of the authors (S. Garland) was employed as a botanist on a Job Creation Programme scheme at Sheffield City Museum. The aim was to visit all sites of known or suspected biological interest in the Sheffield District and to record basic details, especially from a botanical point of view. Over one hundred sites were already on our files, but details about them were non-uniform and often very scanty.

This large number of sites, some of them covering twenty or thirty square kilometres, meant that a careful plan of action had to be formed to enable useful data to be collected from them all, by one person in one season. We decided that the basic requirements of an enquirer, including ourselves, when consulting a site file were to be able to obtain a good idea of what the site was like, without necessarily ever having been there, and to be able to find out how well the site had been studied from all aspects. The site file would provide a suitable place to store lists of species from certain sites, but the aim was to provide a base of information which could be used to build up the files in future.

Eventually the following fieldwork structure was decided upon:

1 An attempt should be made to walk through as much of the site as possible. When visiting large, fairly uniform sites such as moorland, attention should also be given to small features such as valleys, bogs, cloughs, woodland and other 'different' habitats. Boundaries should be decided upon as clearly as possible.

2 The major habitats should be sketched on a 6 inch to 1 mile map and any potentially interesting places (for example, springs, pools or quarries) should be noted. Habitats are described on the basis of physical features and plant communities.

3 Lists of dominant flowering plants should be made for all habitats and, depending on the time available, other plants species, mammals, insects, birds etc.... should be noted.

4 35 mm colour transparencies should be taken of the site with the aim of representing a selection of the various habitats.

After the visit the data was written up in the form of a report (see page 515 for an example). This provides an easily understandable verbal description of the site which, when used with an annotated map and colour transparencies enables a very good picture of the site to be drawn.

A geological site survey ran concurrently with the above scheme.

Freshwater Site File

In 1979-80 we conducted a survey, again with Manpower Service Commission support, of freshwater sites and invertebrates, which had largely been omitted in the previous survey.

The Freshwater sampling points and all relevant data are kept in a separate file. This file contains information, species lists and colour slides relating to each site. A master wall-map indicates all the sites and makes it straightforward to extract data concerning all freshwater sampling points within the biological site in question. There are over 500 freshwater sampling points.

In the freshwater file all sites are numbered to facilitate retrieval of data, and to provide an easy cross-reference to a substantial collection of accessioned specimens.

Additional Input

1 Bibliography. References to all publications relating to each site. This information represents the oldest part of the site file, initiated by David Spalding in 1964. Comprehensive and more or less up to date. Necessitates a careful check of local publications (Sorby Newsletter, Sorby Record, the Naturalist, county trust newsletters) and occasional search for other material.

2 Site orientated records from local naturalists etc.

a) Birds. Information based on (but not a direct copy of) the B.T.O. Site Register project, was prepared by members of the Sheffield Bird Study Group, using B.R.C. cards. Note that confidential information is retained by the S.B.S.G. recorder. (Fig)

b) Mammals and Lower Vertebrates. Reports are prepared for the more important sites relating to these groups. A separate file of Badger setts approaches completion, but is maintained in a confidential file, not available for general enquirers.

c) Vascular Plants. Records for the "Flora of Sheffield" project are held by the Sorby N.H. Soc. Botany Section, cross-indexed to species and locality. A photocopied site report and species listings are currently obtained virtually on demand by telephone through the good offices of Miss M. R. Shaw, as required. It is hoped to acquire the complete file for the Record Centre on completion of active fieldwork on the Flora.

d) Copies of field excursion reports by the Sorby N.H. Soc., Yorkshire Naturalists Union, Sheffield Bird Study Group and Rotherham Naturalists Soc. are filed. Usually very concise and accurate summaries of the most significant records of the day.

3 Newspaper cuttings and C.P.R.E. (Council for the Protection of Rural England) reports. Often very useful background information on the conservation and use of sites.

4 "Feed-back" from students, teachers etc. who have used the site file to prepare their own reports. Copies of the relevant parts of theses, dissertations, projects etc. are requested in return.

5 Various other published and unpublished reports, manuscript material, photographic prints etc. Some examples include management plans prepared by the Peak Park Planning Board, N.C.C. S.S.S.I. schedules, Freshwater Biological Association Report, various black and white prints and negatives.

Updating Files - ideas

The staff input now continues at a lower key for data being collected by the museum staff during field visits. Reports of a similar nature are produced for both new sites and existing sites after a visit, even if they are quite brief. Most of the visits are in response to a specific enquiry which is not satisfactorily answered by our existing file.

An approach similar to that of the JCP Scheme is used when visiting new sites or new areas of known sites. Further visits can be for varying reasons, and information is accumulated on various aspects. The data collection for files can be grouped roughly into 4 stages.

1 Initial visit (see JCP scheme above).

2 Detailed studies of certain aspects such as habitats, species etc. This involves concentrating efforts on such groups as aquatic beetles, lichens, dead-wood-associated invertebrates or flowering plants. The general idea is to learn as much as possible about a site for the lowest man-hours input.

Discussions concerning which groups to concentrate efforts on have continued for some time and will continue! Many aspects must be considered; these are listed below:-

a. Species with a strong public appeal will carry more weight in any report. (The "cuddly bunny" syndrome.) This includes mammals, birds, reptiles, amphibians, flowers and butterflies.

b. Species which cannot be identified in a relatively short time are best avoided if a rapid reply is required to an enquiry. For example, a crate of unidentified beetles is of very low value when compiling a report, although they will almost certainly prove invaluable in time. (Evans; 1979 pp. 23-27, bryophytes.)

c. Species with very specific ecological requirement relevant to the site under study are very useful as they can impart a great deal of information about the habitat for less work. Examples of such "ecological indicators" are certain Coleoptera and Diptera which require sites with a continuous history of woodland containing overmature trees and dead wood and certain lichen species which are particularly sensitive to habitat disturbance. Additionally, lichens and many freshwater invertebrates are known to be indicators of pollution levels in their respective habitats.

   There are two problems associated with this approach. Firstly, the field work is always vastly more productive when performed by someone experienced in collecting the group concerned. Secondly the "ecological indicator" concept is in its infancy and very few proven indicator lists for any habitats exist. (Even the Coleoptera in the ancient woodland indicator lists of Harding(1977) are not of great use in northern England due to faunistic differences, Garland (1983). See also Stubbs (1982) who discusses hoverfly indicator species.

d. Standardized sampling techniques (e.g. moth-trapping, live mammal-trapping) are fraught with problems. They are useful to compare sites of similar types over the same time periods, but otherwise can be misleading. For example, pitfall traps measure relative activity of animals, or their love of formalin solution rather than their abundance and moth-traps are biased towards faster-flying species and sample migrating and resident populations. Sampling techniques and their pitfalls (groan) are admirably discussed in Southwood (1978).

3 Comprehensive site study. This will involve site visits and studies of several groups of the fauna and flora as described above as well as research into earlier recordings and published references. The 'Vale of Belvoir' report (Evans 1979) is an example of such a publication. It presents all the available data in a neutral way to be consulted by the parties concerned with the Public Enquiry held to discuss plans for coal-mining in the area.

Sheffield City Museums Natural Sciences department produced a 48-page report of some detail for the Nature Conservancy Council to support a proposal that a local site, Wharncliffe Wood, be considered as a candidate site for S.S.S.I. status. This presented carefully selected information from a vast quantity which would have rendered the document much more awkward to use. However, even after selecting this information certain of the subjects discussed carried far greater weight than others. Historical algal records are of much lesser value than current hoverfly records pertaining to dead wood associated species. Likewise in the 'Vale of Belvoir Report' the lichen section is of much higher value than, for example, the fleas or bumble-bees. There is certainly much to be discussed when considering writing such reports especially when considerable time and money is involved.

4 Total comprehensive faunal and floral listings for all sites. The ultimate. If you think you can achieve this, forget it! It is a good, long-term aim, but will never be achieved, except for very small sites which receive considerable attention. Difficulties arise in getting help from a complete range of experts; has your local society a Bacteria Recorder?! However, we will all undoubtedly strive to swell our site files with this ultimate aim in mind.

Biological Site Records as an Information Service

Basically, the site file has evolved alongside an increasing demand for more complex information on areas of natural history interest. Information retrieval is totally manual at the present, and presents no problems for straightforward site enquiries. A bona fide visitor is simply presented with a site folder, and relevant information is either extracted or photocopied as required. Charges are only made for photocopies. A brief review of the major users and uses are summarised as follows:

Individual Local Naturalists are fairly regular users of site information. Quite often interested or carrying out fieldwork in a single discipline, and requiring background information on the total natural history of the site.

Conservation Committees of Natural History Societies and Regional Rural Protection Groups frequently ask for data on threatened sites to fight developments. Likewise, the relevant Planning Authority may ask for the same information. Although one may be personally tempted to support the conservation cause, we must remain strictly impartial in all cases if the system is to run efficiently. Several local sites have been 'saved' in this way, mainly from development of 'recreational' facilities, but also occasionally from complete obliteration. Often, however, cases are not usually so clear-cut, and a compromise can be negotiated. For example, it has been possible to suggest alternative routes for major roads, or the re-siting of proposed picnic sites, car parks etc. to avoid highly sensitive sites.

District Planning Department - drew heavily on stored information and staff expertise for the formulation of a Green Belt Plan for the Sheffield Met. District. This included original notification of sites of biological, geological, historical, and archaeological significance. At a later date more detailed information was requested for 'problem' areas, where a conflict of opinions existed. As the reputation of the Museum's records centre has grown, and contacts are made with planning staff a number of individual requests have been received. Usually an accurate 1:10560 (6") map indicating site boundaries, and a digest of each site's biological significance suffice, but occasionally more detailed information is required.

We have provided the Department with a key map to sites of biological and geological sites in the Metropolitan District, in the hope that their development officers will consult us for information whenever a site is likely to be affected.

County Council Departments. The work of South Yorkshire C.C. Environment Department since its formation in 1974 has included the preparation of "A Review of Nature Conservation in South Yorkshire". 'Appendix A' to this work is an inventory of 285 sites known as non-statutory S.S.I.'s (Sites of Scientific Interest) and scheduled as such, on a

local scale by the Environment Dept. Each site is numbered, mapped and assessed on a scale of 1 to 5 for each of six subject areas: Birds, Other Vertebrates, Invertebrates, Flowering Plants, Other Flora, and Geology. The assessments are computerised and remain confidential, to avoid mis-interpretation by inexperienced observers. Sites are also classified as suitable for educational use, or otherwise. The Museum, along with other institutions, made a significant contribution to this project, which is now used by the Environment Dept. as a basis for nature conservation in the County.

More recently, enquiries requesting more detailed information on these S.S.I.'s have been received from the Environment Dept. and less frequently from the county Planning Dept., resulting from planning applications to develop or change the use of individual sites.

This system is an alternative to the Museum processing all planning applications. Time is saved, but it could be argued that we should be concerned with all sites and not just S.S.I.'s. One likely problem would be if a development went ahead off a S.S.I. but near enough to have a strong effect on it due to such changes as an increase in sulphur dioxide levels or decrease in the water-table. We have to entrust these decisions to the Environment Department; however, we have had no problems yet.

Nature Conservancy Council - Liason with the N.C.C. regional offices over the scheduling and revision of statutory S.S.S.I's has resulted in the preparation of substantial reports on four major sites; namely Moss Valley, Wharncliffe Wood, Ecclesall Wood and Agden Bog, all recommended as possible S.S.S.I's. This involved museum staff in more detailed work on these sites, in the form of additional fieldwork to asses selected invertebrate groups, research into existing information and preparation of detailed reports. Other existing S.S.S.I. schedules are being revised or ammended with reference to information stored in the site file.

County Naturalists Trusts - Site files are maintained for nature reserves within our area and relevent information forwarded to either the Yorkshire Wildlife Trust or the Derbyshire Naturalist Trust. We have particularly close links with Agden Bog Nature Reserve (Y.W.T.) as one member of staff (Tim Riley) is currently reserve chairman with responsibility for management and development of the reserve. The South Yorks Area Group of the Y.W.T. acts as an 'environmental watchdog' over all important sites in the county (not only reserves) and alerts naturalists and conservationists to threats, as well as taking direct action.

University/Polytechnic Students - Undergraduates in certain B.Sc. or B.Ed. degree courses are required to undertake surveys and/or assessments of local sites as part of their third or fourth year studies, and often refer to existing information on file as either background or appendix material to support their dissertation. In such cases detailed species lists are usually requested. University departments most frequently requesting information include Natural Environmental Science, Landscape Architecture and Botany: Polytechnic departments include the Environmental Studies, Biology and Education Departments.

Teachers/Student Teachers - They seek background information on the natural history of local sites in the vicinity of their schools. Such enquiries are increasing as school travel budgets

dwindle and teachers turn their attention to resources nearer home. Four of our less sensitive sites have been designated as official "Field Studies Sites" where school fieldwork is actively encouraged.. Guide books for teachers have been prepared by an ad hoc Field Studies Group comprising museum staff, education advisors, teachers, naturalists and the Recreation Department.

School Students - As environmental studies and natural history become more important parts of the G.C.E. and C.S.E. curriculum, an increasing number of school students use the museum's records centre as the initial step in their project work.

Conservation Volunteers - More recently, conservation volunteers have consulted museum staff and records before undertaking active conservation work. On three occasions an initial contact has led to site visits resulting in a better understanding of the site, and a reduced risk of accidental, irrepairable damage.

Amenity Woodlands Advisory Group - An ad hoc group of naturalists, educationalists, outdoor pursuits persons and staff of Sheffield Recreation Department which was set up by the latter to canvass opinion from all those with an interest in the woodlands managed by the Department. These woodlands cover a wide spectrum from highly managed parks to a nature reserve and other 'wild' areas. They are a large and significant habitat resource in the District. A summary of some of the Group's activities appear in Gilbert (1982).
The Museum is represented on the Group and provides objective data and opinions relating to woodland ecology and conservation.

Peak Park Planning Board - In 1983 representatives of the Board who were conducting a habitat survey of part of the Peak District National Park extracted details of all Sheffield Metropolitan District sites within the Park. This now forms part of a register of sites of natural history interest in the same way as the South Yorkshire register.

Problems

The major problem in maintaining our site data-bank is staff time. The solution has been to use M.S.C. staff to update files in quite a big way and to make use of volunteers in a smaller way to collect insects from sites during the summer. Information concerning several sites has been accumulated in the latter way in recent years. This has included general Diptera, Coleoptera and Hemiptera collecting as well as more specific studies such as craneflies or sawflies when the volunteer's abilities allowed such specialisation.

Staff fieldwork time is usually restricted to sites which have been the subject of specific enquiries from outside bodies. We rarely have enough information for a detailed enquiry and must at least visit the site once to update our files. A short report is always written after any such visit. This updating is vital and unavoidable. If we visited twelve of our one hundred and twenty sites each year then there would always be on average twelve site files which would be nine years out of date!

In practice, fewer than twelve sites are usually studied each year. One must always decide what priority this work should receive alongside our other duties? What minimum standards should we aim for?

Acknowledgements

We would like to thank our colleagues Jerry Lee and Tim Riley for helpful comments and criticisms on the first draft of this paper. Also to the Museum's Director, Philip Broomhead, for his support of biological recording activities.

Steve Garland
Derek Whiteley
Natural Sciences Department, Sheffield City Museum.

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SK 23 09 60

HABITAT

Mainly upland gritstone moorland, managed for Grouse rearing, dominated by Ling. Includes Upper Ewden Beck with much birch scrub and some mature Elm/Oak.

BIRDS

Date: Dec 77 | V.C. No: 63

V.C.: S. YORKS

Alt.: 500-1800 | Code No.:

BROOMHEAD MOORS / BIO.LOC. FILE /29

	1	2	3	4	5	6
Gt. Northern Diver						
Red-throated Diver						
Great Crested Grebe						
Little Grebe						
Manx Shearwater						
Fulmar						
Gannet						
Cormorant						
Shag						
Heron			1			
Bittern						
Mallard	1	1		1		
Teal		1				
Garganey						
Gadwall						
Wigeon						
Pintail						
Shoveler						
Scaup						
Tufted Duck						
Pochard						
Goldeneye						
Common Scoter						
Eider						
R-b Merganser						
Goosander						
Shelduck						
Grey Lag Goose						
White-fronted Goose						
Pink-footed Goose						
Brent Goose						
Barnacle Goose						
Canada Goose						
Mute Swan						
Whooper Swan						
Bewick's Swan						
Buzzard				1		6
Sparrow Hawk				1		
Marsh Harrier						
Hen Harrier				1		
Peregrine						
Merlin				1		
Kestrel		1		1		
Red Grouse		4		4		

	1	2	3	4	5	6
Black Grouse			1			
Red-legged Partridge						
Partridge						
Pheasant			1	1		
Water Rail						
Corncrake						
Moorhen						
Coot						
Oystercatcher						
Lapwing	2	1				
Ringed Plover	1					
Little Ringed Plover						
Grey Plover						
Golden Plover		2				
Turnstone						
Snipe		2				
Jack Snipe						
Woodcock						
Curlew	1	2				
Whimbrel						
Black-tailed Godwit						
Bar-tailed Godwit						
Green Sandpiper						
Wood Sandpiper						
Common Sandpiper			1			
Redshank						
Spotted Redshank						
Greenshank						
Knot						
Purple Sandpiper						
Little Stint						
Dunlin						
Curlew Sandpiper						
Sanderling						
Ruff						
Arctic Skua						
G. Black-backed Gull	2					
Lesser B-b Gull	2					
Herring Gull	2					
Common Gull	1					
Black-headed Gull	2					
Kittiwake						
Black Tern						
Common Tern						

	1	2	3	4	5	6
Arctic Tern						
Little Tern						
Sandwich Tern						
Razorbill						
Guillemot						
Puffin						
Stock Dove		1		2		
Woodpigeon		2		4		
Turtle Dove						
Collared Dove						
Cuckoo		2				
Barn Owl						
Little Owl						
Tawny Owl		1		-		
Long-eared Owl						
Short-eared Owl	2		3			
Nightjar						
Swift						
Kingfisher						
Green Woodpecker			1	1		
G. S. Woodpecker			1	1		
L. S. Woodpecker						
Woodlark						
Skylark	2	2		3		
Swallow		1	3			
House Martin	1		1			
Sand Martin	1					
Raven						
Carrion Crow			1	2		
Rook						
Jackdaw						
Magpie		1		2		
Jay		2		2		
Great Tit		2		2		
Blue Tit		2		2		
Coal Tit		1		1		
Marsh Tit						
Willow Tit		1		1		
Long-tailed Tit		2		2		
Nuthatch						
Treecreeper		1		1		
Wren		3		3		
Dipper						
Mistle Thrush		2		2		
Fieldfare	3			4		
Song Thrush		2		2		

	1	2	3	4	5	6
Redwing	2			3		
Ring Ouzel		1				
Blackbird		2		2		
Wheatear						
Stonechat	1			1		
Whinchat		2				
Redstart		1				
Nightingale						
Robin		2		2		
Grasshopper Warbler						
Reed Warbler						
Sedge Warbler						
Blackcap		1				
Garden Warbler						
Whitethroat						
Lesser Whitethroat						
Willow Warbler		2				
Chiffchaff						
Wood Warbler						
Goldcrest		2		2		
Spotted Flycatcher						
Pied Flycatcher						
Hedge Sparrow		2		2		
Meadow Pipit	3	3		1		
Tree Pipit						
Rock Pipit						
Pied Wagtail		1		1		
Grey Wagtail		1				
Yellow Wagtail						
Red-backed Shrike						
Starling	3	2		3		
Hawfinch						
Greenfinch		1				
Goldfinch		2		2		
Siskin	2			1		
Linnet	2	2		2		
Twite	2	2		2		
Redpoll	3	2		2		
Bullfinch		2		2		
Crossbill						
Chaffinch	2	2		2		
Brambling	1			1		
Yellowhammer	1	2		2		
Corn Bunting						
Reed Bunting	2	2				
House Sparrow		1				
Tree Sparrow				2		

OTHER SPECIES Rough Legged Buzzard, Great Grey Shrike Leach's Petrel, Snow Bunting all Winter or Passage (1) Plus confidential information held by Sheffield Bird Study

Appendix 1. - Example of bird records as held in site files.
Data from the Sheffield Bird Study Group.

Appendix 2 - Example of a site visit report.

WYMING BROOK/BIO.LOC.FILE/28

Report: Visit made on 21st September, 1978, by S. P. Garland

Wyming Brook runs down from Redmires Reservoirs to Rivelin Dams through a wooded gorge. The site includes this as well as all of the other woodland around the Dams except the Water Authority owned areas. This consists mostly of mixed woodland with numerous planted Larch and Scot's Pine.

1. Open area near the top of the valley

This area is very popular with day-trippers and seems to withstand this fairly well. It is mostly short turf with occasional patches of Bilberry or bramble and some Soft Rush in wetter places. The visit was on a warm day and Small Copper, Small Tortoiseshell (Butterflies), Silver Y Moth and Aeshna juncea (Dragonfly) were seen.

2. Fox Holes

Most of the woodlands along the top of the bank are dominated by Birch (B.pubescens) with some Sessile Oak and Mountain Ash. Below are many Larch, Beech and many others. The valley bottom plants are discussed in other sections, but the top vegetation includes mainly Purple Moor Grass, Bilberry, Bracken, Ling, Wavy Hair Grass, Sheep's Fescue, Heath Bedstraw and occasionally Cowberry. Common Bent Grass occurs in places.

3. Fox Holes Plantation

This area is more a mixed woodland, though deciduous broadleaf species predominate. As the slope is descended then numerous springs are seen to occur at the foot of the steepest bank producing large areas of marsh. The woodlands possess an abundance of Bracken, Creeping Soft Grass, Wavy Hair Grass, Bilberry, Buckler Fern, Bramble, Heath Bedstraw and Wood Sorrel whereas the marshes include Marsh Violet, Goat Willow, Lady Fern, Creeping Buttercup, Opposite-leaved Golden Saxifrage, Marsh Thistle, Soft Rush, Tufted Hair Grass and Sorrel. In places Herb Robert and Foxglove are abundant.

The woodland flora is mostly found on the lower slopes of Fox Holes Plantation and up the eastern side of the valley. The higher parts of the slope and most of the western woodland have a heathy flora, though Creeping Soft and Wavy Hair Grasses are dominant in places as well as Bracken.

West Area

The western areas contain far more conifers, mostly Larch and Pine, producing an unusual landscape. Above these trees is Ling-dominated Moorland which is virtually a pure stand, but for some Wavy Hair Grass. One very interesting area occurs at the top of Reddicar Clough, but is mostly within the Brown Edge site, although marshy woodland areas extend down into the Wyming Brook site. A list of species from the Brown Edge Site is attached to this report.

CONTENTS (AND AUTHORS)

Appendix 3 - Contents list of the Wharncliffe Wood Report.

* indicates sections based largely on original museum fieldwork.

HERBARIUM OF SIR J. BENJAMIN STONE

City of Birmingham Museums and Art Gallery

The Catalogue on Microfiche

The complete catalogue of 700 pages, together with 528 index-pages, is available in a microfiche edition for convenience in search and reference (the entire work on just six fiches). There are three separate indexes to genera-and-species, collectors and localities, including every specimen listed. The main catalogue comprises full details from the original data of 10,000 specimens of vascular plants in 1,600 genera. They appear in systematic order of families according to the arrangement of Engler & Melchior, with alphabetic listing of genera in each family, every specimen being identified by its sheet-number for reference from indexes.

The specimens were gathered predominantly in the decade 1880-1890 by about 160 botanical collectors, many of whom are well known. The coincidence of so many active field collectors distributing herbaria at this time is testimony to the expansion of descriptive taxonomic botany toward the end of the nineteenth century. Many of those botanists whose specimens were received by Stone died in the years preceding the war of 1914, which was also the year of Sir Benjamin Stone's death. Thus his herbarium encapsulates the endeavours and achievements of a generation of European and American botanists.

The restricted time-span during which most of the material was collected gives a strong cohesive integrity to the entire herbarium and, in effect, enables the regional lists to stand as floristic statements of their own time and place. The earliest dated specimens are from two Mediterranean tours, one by Endress (1829) and the other by Muller ("Unio Itineraria" 1827).

The specimen sheets bear the original collectors' labels without later annotation. This is a valuable feature of the herbarium, providing first-hand information on localities and habitats, also examples of individual botanists' handwriting and signature. The nomenclature has not been revised or altered in any way and therefore preserves the taxonomy of the 1880's. The catalogue reproduces these names virtually as given and syntypes are listed by reference to sheet numbers in the accompanying notes.

Generally, the authors of plant names are cited by the collector, some with reference to published works. The constraints of the catalogue's format have dictated that these data are not reproduced on the fiches but they may be obtained by request to the Keeper of the Herbarium. If information required is in manuscript, a facsimile of the label may be offered to avoid errors arising from misinterpretation of illegible script.

The catalogue is accompanied by explanatory notes on the system adopted for translation of information from various European languages, together with a glossary of habitat descriptions derived from Latin. Detailed information is given on the treatment of plant names, personal names and place-names, and on the scheme of geographical classification that has been applied in order to index without distorting original data.

COLLECTORS: Major collections, with number of specimens given in brackets, include material gathered by H. Bordere (385) from the Central Pyrenees; by F.H. Hosford (379) from Vermont U.S.A.; P. Porta (514) from the S.Tirol; by C.G. Pringle (1638) from Arizona and Mexico; E. Reverchon (1088) from Spain, Alpes Maritimes, Corsica and Sardinia; G. Rigo (460) from northern Italy; J.B. Stone (637) from Norway and Switzerland; W.N. Suksdorf (836) from the state of Washington U.S.A.; and F.O.Wolf (897) from the Valais, Switzerland.

Other smaller but nonetheless significant collections included in Stone's herbarium are those from C. Baenitz (127) most from Norway; J. Bornmuller 252 from Anatolia, Bulgaria and Serbia; G.A. Geneve (154) without provenance; R. Huter (286) from the Central- and East-Tirol (Austria); Bjorn Lindberg 135 from Norway; R.P. Murray (172) from the Canary Islands; and G.E. Post (264) from Lebanon.

GEOGRAPHY: The considerable interest of the Stone Herbarium resides in the wide geographical spread of specimens representing the larger generic groups of flowering plants, especially across Europe to the Middle East and within the North American continent. Its scientific value is further increased by the fact that collecting was concentrated in certain districts and provinces: and in consequence, their local floras are well represented.

Major collecting areas, with number of specimens in brackets, are: --- in Europe --- the Austrian Tirol (447); France, the Pyrenees (321) and Maritime Alps (206); Italy, the Alto Adige (493) and Brescia-Verona (488); the central Mediterranean, Corsica and Sardinia (366); Norway, the Dovrefjell and Tromso (387); Spain, mainly Andalucia (447); Switzerland, the Valais (908); and --- in N.America --- the Mexican state of Chihuahua (727) and others, in addition to Arizona (505), Washington (820) and Vermont (381) in the United States.

Smaller collections of some significance are from Crete (105), the Canary Islands (173), Czechoslovakia (88), Iceland (71), Romania (106), Lebanon (265) Turkey (180), and Yugoslavia (126).

TAXONOMY : Among the Mexican specimens gathered by Pringle are numerous syntypes named by Sereno Watson at the Gray Herbarium of Harvard University. Syntypes are also included among Bornmuller's specimens from Anatolia. About 1600 genera are listed (equalling the number in Flora Europaea). Many genera are represented by between 30 and 50 sheets and the larger genera by even more as the following list indicates (with number of specimens in brackets):

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SOURCES OF BIOLOGICAL RECORDS

"The Naturalist" (Part 3)

This part deals with biological records from outside the North of England published in "The Naturalist" from 1890 to 1899. A complete index of the records published in these three parts is stored on the University of Aberdeen's computer and copies can be obtained from Kenneth Watt. The references to natural history outside "The Naturalist's" sphere of interest have become fewer and we, therefore, propose to terminate this series here. Bill Ely will continue to extract any records and it may be possible to add them to the Aberdeen data base. If you wish to be kept informed of these additions please send Bill a foolscap s.a.e. but do not expect any reply for at least six months!

If anyone cares to sort the Irish, Scottish and/or Welsh records into their respective counties (which the observant amongst you will have noticed has not been done) then we should be delighted.

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Bill Ely,
Clifton Park Museum,
Rotherham.

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SOCIETY FOR THE HISTORY OF NATURAL HISTORY

At a Special General Meeting on the 28 March 1983 the Society for the Bibliography of Natural History, founded in 1936, decided to change its title to the Society for the History of Natural History. The decision was not taken lightly, and had been the subject of deliberation and consultation over a number of years. The word 'bibliography' had originally been chosen to cover members' researches into the dates of publication of taxonomically important works. Much of that task has now been completed, and the specialised current use of the word 'bibliography' in modern librarianship and the tremendous upsurge in interest in the history of science in the last decade indicated that a change in name was desirable. The motion proposing the change was carried by a large majority. The Society is always pleased to welcome new members, and its activities are particularly relevant to those involved with natural history collections and the life and work of collectors. A leaflet on the Society's activities and publications is enclosed with this copy of Biology Curator's Group Newsletter.

BULLETIN OF PLANT GALLS

The subject of Plant Galls, involving many branches of botany and invertebrate zoology, has no settled place in the literature. A Bulletin is now being produced, twice yearly for the present, and a copy of the first issue (Spring 1984) will be sent to any individual, society, museum or other institution on request.

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THE DUTIES OF NATURAL HISTORY

(NOTES ON EARLY NINETEENTH CENTURY CUSTOMS DUTIES ON IMPORTED NATURAL HISTORY SPECIMENS)

The exploratory and commercial expeditions of the eighteenth and nineteenth century, through the collections they brought back, were the primary source of our knowledge of the world's flora and fauna. However, it is not always appreciated that such collections were not unreservedly welcomed into Britain - they were, in fact, during the early nineteenth century at least, subject to customs duty.

It would appear that the collectors of this period may have been equally unaware of these charges for, William Swainson (1789 - 1855) noted that many had fallen foul of the regulations. He, therefore, in 1822, set out in his pamphlet The Naturalists' Guide the necessary arrangements that should be made and the charges to be anticipated. Swainson was in a most suitable position to do this; both his father and grandfather had held various posts in the Customs service and he himself had been appointed a clerk at an early age. He did not find the work to his liking and soon left to join the army and travel abroad where he gained the experience of collecting and preserving which is detailed in the rest of the book.

The Treasury at that time were clearly aware of the commercial value of such collections and, as ever, wished to share in the proceeds. However, the task of valuation appears to have been beyond them and it was left to the recipient of the collection to do this, under pain of losing the collection (admittedly with some recompense) if the customs official thought it too low. There must have been some specialisation in the service to accommodate this facet of the work. However, to accurately value a collection would have required a considerable breadth of knowledge. The misidentification of a species could drastically alter its value. Thus, a rare specimen of the genus Conus could command a price in double, sometimes approaching treble figures, whereas the commoner members of the genus would remain firmly in single figures or less. The valuation of totally undescribed species would have been an almost impossible task. (The erroneous localities attributed to specimens collected at this time may perhaps be partially attributable to the investigatory rummagings of custom officers resulting in the loss of or mixings of labels).

The Treasury were obviously aware of the difficulties of valuation and exempted pre-notified scientific collections. The rates attracted by the non scientific collections were devised both for their ease of operation and to reflect the commercial value of the specimens. Certain aspects of the rates are similar to today's VAT, i.e. those specimens which had been processed in some way, e.g. the mounted bird specimens attracted the highest rate while the 'raw' material attracted lower rates. However, some taxa e.g. mammals, reptiles, fish, etc., are not even mentioned, presumably suggesting that they had little commercial value on the domestic market. Swainson, with particular reference to fish, attributes this to the unattractiveness of the preserved specimen to which might be added the difficulties and bulkiness of storage.

The relative apportionment of the duty does not appear to have unduly influenced the desirability of collecting certain taxa; shells, for instance, continued to be considerably more popular than fish. In a wider sense, however, the effect of taxes has rarely, if ever, been considered in relation to the succession of crazes that characterised nineteenth century natural history. The expansion

of natural history publication has been attributed to the reduction of the paper taxes in 1836, however, could not these taxes have also discouraged botanical collecting. Swainson in his book advocates changing the paper twice daily for a fortnight during the pressing of plants. Admittedly, this is for low latitudes, however, at high latitudes the production of a large collection would entail the consumption of a considerable quantity of paper, not considering that used for final mounting. The significance of such taxes on the activities of the leisured and moneyed class that indulged in natural history collections is debatable but as far as I know has yet to be assessed.

Swainson, W. 1822 - The naturalists' guide for collecting and preserving subjects of natural history and botany. London (p.65-66 Appendix reproduced opposite).

MISCELLANEOUS.

NOTICE OF AN UNCOMMONLY TAME AND SENSIBLE PINE MARTEN (*MUSTELA MARTES*). BY ST. K. VON SIEMUSZOVA-PIETRUSKI.

In June 1836 I obtained a very young Pine Marten, which in a short space of time became so domestic that he truly deserved the admiration of all who had an opportunity of seeing him. This pretty little animal went about freely through all the rooms of the house without doing harm to any one, played in the court-yard with my Danish dogs, often sprang upon their backs, and rode frequently upon the good patient beasts after the manner of monkeys in a very comical style for a good distance. The dogs too were very fond of the Marten, and never showed signs of their inherited hatred of such animals. In time he became so much attached to my person that he followed me everywhere, even into the neighbouring villages, just as only a dog or badger would do (see my remarks upon the badger in Wiegmann's Archiv, 1837, Part II.). In these walks it was very interesting to observe how he was able to overcome his natural innate propensity for climbing up trees; for it very frequently happened that the desire of climbing up a tree seized him; yet as soon as he perceived that I had gone on, the little animal hastened after me directly. Even upon long excursions to the old forests of the Carpathian mountains, at a distance of three and four (German) miles, the Marten was my faithful companion; he swam through rivers and brooks with perfect ease like an otter: but the most remarkable thing besides was, that he never went very far from me; only once do I remember having lost him for some hours. This happened in the following manner.

On the 30th of August the gentle Marten followed me, as he always did on an excursion, into the part of the Carpathians which is called the Potoninen. I was busied in collecting the beautiful *Carabus Sacheri* in an enchanting spot, and quite forgot my Marten, who had found a nest with young blackbirds (*Merula montana*, Brehm.) just by, and was quietly devouring them. After a fortunate booty of Coleoptera I then wished to climb a lofty hill called Paraska, but I missed the Marten and continued my way without him. How great was my joy, upon my return, after eight long hours, to find the sensible animal again in the very meadow where I had lost him!

If I was absent from home this Marten would take no food the whole day long; and when I returned showed his joy by merry leaps and caresses.

He ate everything that came to table, bread, fruit, cheese, milk, but he was fondest of raw flesh; he drank wine with great relish, and plentifully. This even hastened his death, for once he drank so much, that on the following day he was found dead on the house floor.—*Wiegmann's Archiv für* 1839, 3tes Heft.

3

Annals of Natural History 4 (1840)

Directions for clearing Packages of Shells, or other objects of Natural History, at the Custom House.

MANY fine and interesting parcels of natural productions have been lost to their owners, from ignorance of the necessary precautions to be followed in sending their collections from abroad, and of the forms to be observed on their arrival here. The boxes, on being shipped, should be entered on the ship's manifest, and three receipts or bills of lading required from the captain; two of these may be sent home by different conveyances, and the third retained as a security. The person to whom they are addressed in England, should immediately apply, on the arrival of the vessel, to a Custom House agent or broker; who will do all that is needful for putting the party in immediate possession. The following are the different duties imposed on these objects, and which are levied on the value the owner chooses to put on them; observing, however, that if the Custom House officer considers that value to be very low, it is optional with him to pay the proprietor the value he has himself affixed, and 10 per cent in addition; thus retaining the property in the king's name. Information on this subject, from the Custom House broker, will be very useful: and the two following gentlemen, having some knowledge of Natural History, should on these occasions be preferred. In London, Mr. Wheeler Gibson, Custom House broker and general agent, No. 31, St. Dunstan's Hill; and in Liverpool, Mr. Edward Morrel, in the same business.

CUSTOM HOUSE DUTIES.

Shells, Insects, Dried Birds and Dried Plants, Rough (or unpolished) Fossils, and Flower Roots	20 per cent. on their value.
Live Plants, Trees, and Shrubs	Duty free.
Garden Seeds	1s. per lb.
Forest Seeds	25 per cent.
Stuffed Birds (or Birds set up in their natural position with wires, &c.)	50 per cent.
Minerals (if the specimens are under 14 lb. weight each)	2d. per lb.
Ditto (if each specimen is above 14lb. weight)	20 per cent.

It should here be mentioned, that in cases where extensive and valuable collections have been made abroad by travellers or naturalists, expressly intended for scientific purposes, the Lords of the Treasury, with proper liberality, are generally pleased to exempt them from any duties, on regular application being made. At the same time it is to be hoped, this liberal policy will soon be extended generally, and these subjects (acquired often by great perseverance and personal risk; and generally valuable only in the eyes of a naturalist,) may be exempted from duties, which can add but a mite, to a revenue of millions; and which exist under no other government in Europe or America.

pp. 65-66 of the Appendix from Swainson (1822) (See opposite page)

PUBLICITY FOR MUSEUM INSECT COLLECTIONS

The Amateur Entomologists' Society has agreed to run a series in its Bulletin on the entomological collections housed in Britain's provincial museums. Merseyside County Museum, Liverpool is the first museum to featured in the February 1984 Bulletin. Other museums wishing to publicise their collections should contact the Honorary Bulletin Editor - Mr.B.O.C. Gardiner, 18 Chesterton Hall Crescent, Cambridge, CB4 1AP.

S. Judd, Merseyside County Museum

HELP FOR FLORA COMPILING

An increasing number of local museums are launching fieldwork projects which have as their goal the publication of an up-to-date account of the flowering plants and ferns of their area. Not all may be aware that the Botanical Society of the British Isles, through its Records Committee, has a wealth of accumulated expertise in such work which it is happy to place at the disposal of compillers or editors of local Floras. This includes advice on field recording methods, the covering of critical groups and various aspects of publication. Those interested are invited to write to the Honorary Secretary of the Records Committee, BSBI, c/o Dept. of Botany, British Museum (Natural History).

The Dragonflies of Great Britain and Ireland by Cyril Hammond. Revised by Robert Merritt. Published by Harley Books £16.95 (1983)

There is no doubt that the study of British and Irish dragonflies really took off when the first edition of this book came out in 1978. Described by some, at the time as "coffee table" and "expensive", it nevertheless proved to be invaluable to those of us working in the field on museum collections. It clarified and updated all information on identification which one had to extract from the excellent work by Longfield, Corbet and Moore (those lucky enough to have one) or even older publications. More than this, it opened up the study of a relatively unpopular group of insects, to the average naturalist, resulting in a tidal-wave of dragonfly watching, recording and photography. At the same time, the National Recording Scheme, originally run by B.R.C. gained momentum, and this new edition includes some 7,500 new distribution map records.

In this extensively revised work, colour plates provide a clear and simple means of identifying 45 species of dragonflies and damselflies found in these islands, including a species new to the British Isles. Also included are keys to the families and genera, a chart of flight periods, distribution maps, prepared for the first edition by the Biological Records Centre.

116 pages including 20 coloured plates, 23 text figures and 44 distribution maps. Bound in green cloth and blocked in gold.

Likely to be the standard reference work for many years to come.

Incidentally, Basil Harley (Harley Books, Martins, Great Horkesley, Colchester, Essex CO6 4AH) has done a great service by taking over this publication and the lepidoptera epic from Curwen Press. Rumour has it that a bit of something on spiders is in the pipeline too! Watch this space!

The British Dragonfly Society published its first Newsletter in 1983 and very good it is too! Edited by R. Merritt. Details of membership from Rod Dunn. The Northwood Social Club, Darley Dale, Matlock, Derbyshire DE4 2HQ

ANNUAL GENERAL MEETING 1984

The A.G.M. called for 6th April 1984 at the Booth Museum, Brighton, proved inquorate, with only 15 members present. After discussion it was decided to proceed with the business of the meeting, subject to future approval by a quorate A.G.M. later in 1984.

Minutes of a meeting of members of BCG held on 6th April 1984

1. Apologies were received from John Mathias, Geoff Halfpenny, Geoff Stansfield, Peter Davis, Charles Copp.

2. Minutes of the A.G.M. held on 25th March 1983 at the Hancock Museum, Newcastle, were read and approved (previously circulated Newsletter, Vol.3 part 6)

3. Secretary's Report. Penny Wheatcroft (Secretary) read her report, previously circulated in Newsletter, Vol.3, part 8.

4. Chairman's Report. Eric Greenwood (Chairman) read his report, previously circulated in Newsletter, Vol.3 part 8.

5. Treasurer's Report. The Treasurer's report was circulated at the meeting. As John Mathias was absent, Eric Greenwood agreed to answer any questions arising from the report.

6. Editor's Report. Steve Garland (Editor) reported that there were no problems at present. He pointed out that short items were useful for filling in gaps in the Newsletter, in addition to major articles on collections etc. He also asked for a volunteer to sell advertising space in the Newsletter, and Peter Lambley volunteered to take this job on for one year. Geoff Hancock (Production Editor) raised a query regarding transposed page numbers and reported that there would be a publishers insert in the next issue.

7. Election of Officers and Committee. The following officers were nominated and returned unopposed.

   Chairman E. Greenwood, nom. P. Wheatcroft, sec. I. Wallace
   Secretary P. Wheatcroft, nom. E. Greenwood, sec. S. P. Garland
   Treasurer J. Mathias, nom. P. Wheatcroft, sec. J. Dawson
   Editor S. P. Garland, nom. D. Whiteley, sec. W. J. Lee.

   The following nominations were received for five committee vacancies, and returned unopposed.

   Members: I. Wallace, nom. E. Greenwood, sec. P. Wheatcroft
   P. Davis, nom. K. Boot, sec. E. Goodhew
   G. Stansfield, nom. J. Mathias, sec. M. Hider
   A. Wright, nom. P. Wheatcroft, sec. K. Boot.

   The Chairman thanked the three retiring members, H. Mendel, P. Morgan and M. Brendall. It was suggested that M. Brendall and G. Hancock be coopted for a further year, to act as BM.NH Liaison Officer and Production Editor respectively.

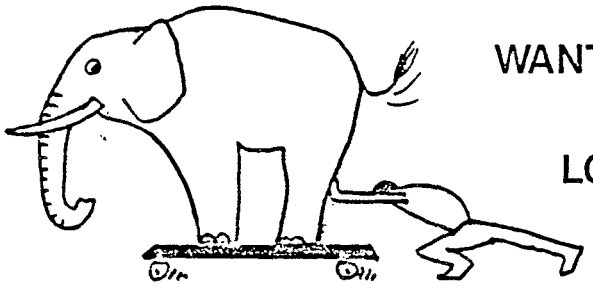
8. Date and Place of next meeting. It was agreed to held the substitute AGM during the BCG Seminar on Biological Records Centres to be held at Leicester in September 1984 when sufficient members should be present. It will be held at 5.00pm on 13th September 1984 (the first day of the meeting). There will be a proposal to adopt the decisions made at the inquorate meeting. However, as with a normal AGM further business may be raised if it is notified prior to the meeting as stated in the

Constitution (BCG Newsletter. Vo.3, No. 3, pp.132-134)

The A.G.M. for 1985 has already been proposed to coincide with a seminar on Historical taxidermy, to be held at Leicester Museum. However it was proposed that from 1986 the Annual General Meetings should alternate between London and country venues. It was agreed that the Committee would investigate this.

9. Any Other Business. There was no other business notified to the Secretary.

During informal discussion following the meeting it was agreed to investigate the procedure for dealing with an inquorate A.G.M., and amend the constitution of the group if necessary.



WANTS, EXCHANGES,

LOST & FOUND

City of Birmingham

CITY MUSEUMS AND ART GALLERY
Birmingham, B3 3DH.
Telephone 021-235 9944
Michael Diamond MA, FMA
Director

your ref
our ref CON/JN/EMS
date 31 May 1984
telephone calls to
direct line 021-235 3550

Dear Sir,

I am hoping to improve the storage of our coral collections, which vary in size, shape and weight from the delicate fan corals to brain corals of hernia proportions. In connection with this, I should be pleased to hear from anyone who has recently tackled this problem, particularly if they have used polystyrene or expanded polyurethane foam.

Yours faithfully,

John Needle
Senior Conservation Officer
Department of Conservation

The aims of the Biology Curators' Group are:-

i) to facilitate the exchange of information between individuals concerned with the management of biological collections and records, their research, conservation and interpretation.

ii) to present the view of curators of biological collections.

Copy dates for future issues based on three copies per year:

31 August for October issue

31 December for February issue

30 April for June issue

Opinions expressed in this Newsletter are not necessarily those of the Committee of the Biology Curators' Group.

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BIOLOGY CURATORS' GROUP - OFFICERS AND COMMITTEE 1984/5
(subject to confirmation at the reconstituted AGM)

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