1 Biodiversity information management systems

Summary

- Biodiversity information management is the core work of an LRC, and requires an integrated sequence of processes to be in place.
- LRCs should have a suite of policies to describe the principles they will apply when managing biodiversity information.
- Procedures are necessary to ensure standardised methods are used in carrying out certain jobs and that polices are effectively implemented.

1.1 Background

The second volume of guidance on *Running a Local Record Centre* addresses the design of the systems required for the management of biodiversity information within an LRC. Figure 1 illustrates the process of data management and the various components discussed in this guidance.

An LRC should identify what data it needs before developing ways of working with various data providers. Data on sites, species and habitats are then recorded according to the LRC's standards. Once collected, data must be processed and managed, with attention given to such issues as data ownership, security of data and storage of paper records. Once data are in formats ready for use, data products and services can be supplied. Core products and services for users should be identified, and standard policies on charging and access to data are required. Mechanisms are also needed for handling enquiries and monitoring customer satisfaction. Finally, in order to manage data effectively and provide products and services, a number of other tools are needed, such as database and mapping software and base maps themselves. A strategy is also needed for ensuring recorders have adequate access to the IT systems they require.

With the exception of information technology systems, all of these issues are best managed within an LRC through a series of policies and procedures. Much of this volume is based on work carried out by demonstration LRCs working with the Linking LRCs project and on good practice developed by other LRCs and biodiversity information managers.

1.2 Policies and procedures

A *policy* is a clear public statement of the principles that an LRC wishes to abide by. If an LRC has such a statement, its users and suppliers can clearly see the LRC's position on a particular issue. However, in order to be accepted, policies may need approval from a wide range of participants in the LRC's business. A policy might cover standards the LRC will adhere to, what it hopes to achieve, or the underlying approach to its work. Policies should be succinct statements (supported with additional information). Some policies may need to take into account agreed NBN standards.

Policies are important to users and suppliers of data and information as well as to those managing and working in an LRC. Policies should therefore be written in consultation with users and suppliers.

A *procedure* is a description of how, practically, the LRC goes about implementing its policies. Procedures are mainly aimed at LRC staff and volunteers or those directly involved in the LRC, rather than users, suppliers and other interested outside parties. Most people will only know procedures exist through the contact they have with the LRC on a day-to-day basis.

1.3 Process of developing policies and procedures

The LRC's management should approve all policies. Different types of people should be involved in developing and agreeing the different policies the LRC needs. Some policies are of particular importance to users or recorders (or both). Users' and recorders' forums can be invaluable in ensuring that there is adequate consultation on the development of new policies or review of existing ones. Equally, it is essential that all recorders and users understand those policies that affect their dealings with the LRC. This guidance gives advice on who should be consulted in the development of policies. The process of policy development can be a key mechanism for building trust with recorders and increasing understanding amongst the user community of how an LRC operates.

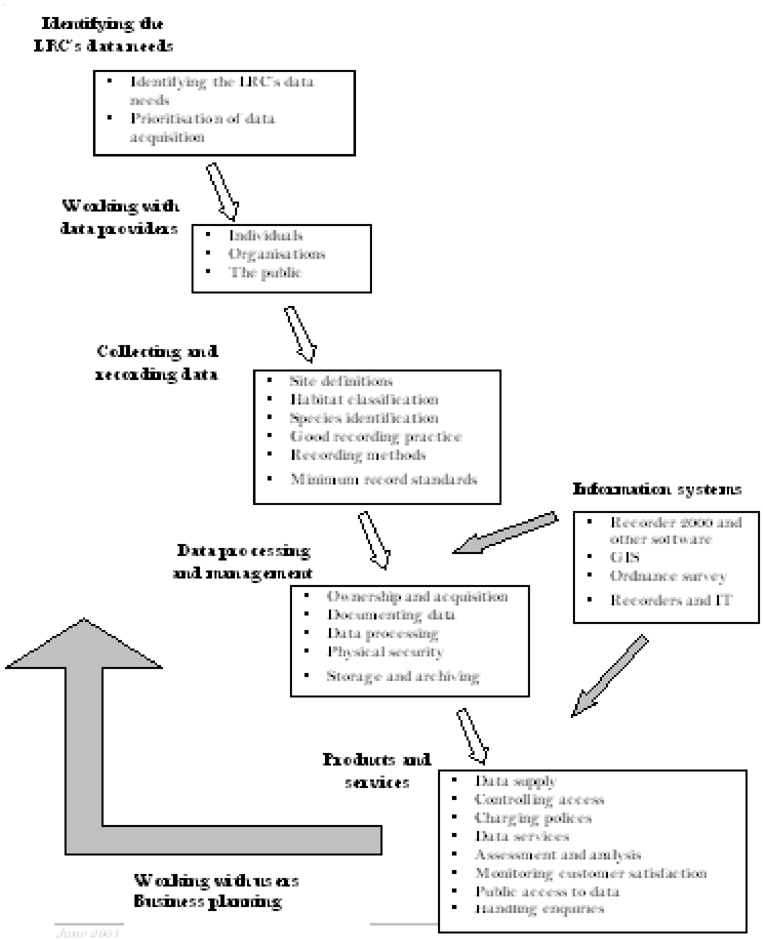
Normally, the policy should be agreed first, with the procedures to implement the policy being developed afterwards. However, it is important that some consideration is given to how a policy will be implemented during its development, to ensure that the policy isn't impossible to apply.

Procedures should normally be developed by LRC staff, and may document details that are critical in ensuring that policies are applied consistently. Some procedures may benefit from wider consultation in their development—for example, to ensure that any paper forms used are 'user-friendly'. Procedures should be approved by the LRC manager, who should normally be charged with implementing polices on behalf of the LRC management. In some instances, the manager may have to seek approval from the LRC management body for procedures which are particularly fundamental or which might be seen as controversial.

The LRC should ensure that all policies and procedures are documented and reviewed regularly. Polices should normally be published in a handbook that is made available to all users and recorders. Procedures usually form part of the LRC's operational handbook used by staff and volunteers, although there is no reason not to make them publicly available (with the possible exception of some elements of security arrangements).

1.4 Case studies

Most of the sections in this volume are supported by case studies, which illustrate the relevant polices and



procedures by using examples from existing LRCs. They are designed to help you understand how to apply the guidance in practice. If you wish to use any material from these case studies, please contact the LRCs directly to seek their permission.

Figure 1: Biodiversity Information Management Systems

Identifying the LRC's data needs

- Identifying the LRC's data needs
- Prioritisation of data acquisition
- Sources of data
- Assessment of available data

Working with data providers

- Individuals
- Organisations
- The public

Collecting and recording data

- Site definitions
- Habitat classification

- Species identification
- Good recording practice
- Recording methods
- Minimum record standards

Data processing and management

- Ownership and acquisition
- Documenting data
- Data processing
- Physical security
- Storage and archiving

Information systems

- Recorder 2000 and other software
- GIS
- Ordnance survey
- Recorders and IT

Products and services

- Data supply
- Controlling access
- Charging polices
- Data services
- Assessment and analysis
- Monitoring customer satisfaction
- Public access to data
- Handling enquiries

2 Data needs

Policy & Principles

- **Evaluation of the LRC's data needs must be based on an understanding of users' needs.**
- The LRC's data needs should be assessed regularly against the LRC's data holdings.
- LRCs should prioritise data acquisition to ensure resources are used effectively.

2.1 Background

In order to operate effectively, an LRC needs to have access to relevant data. Ideally, an LRC would gather, store and manage *all local* biodiversity data. In reality, this is an almost limitless task, and LRCs only have limited resources. Resources should be directed towards collating and managing those data that meet the needs of the LRC (metadata may be held about other data-sets so that the LRC has a record of other available data). There therefore has to be a mechanism for identifying what data are needed, prioritising these needs, identifying data sources and assessing the suitability of the available data.

The LRC's data needs must be based on an understanding of the information needs of its users. This is achieved through working with partners to develop an understanding of their activities and the data they need to undertake those activities. (See volume 1, section 15 *Relationships with core users* and also the guidance on *Developing a Local Record Centre* for a review of needs assessment.) It is important to consider the needs not only of users, but also of voluntary data providers.

Once the LRC's data needs are understood, the next stages are to compare these needs with existing data holdings, and then to identify and prioritise which data-sets the LRC needs to acquire. The LRC will need to obtain data from a number of sources. These may be people or organisations who already supply data to the LRC, although new sources may also need to be identified. The suitability of available data must be assessed in terms of their quality and relevance. This process is summarised in the flow chart below.

Understanding of each user's needs

Assessment and prioritisation of the data needs of the LRC

Evaluation of gaps in the LRC's existing data holdings

Identifying potential data sources and assessing their suitability

Prioritised data acquisition for the LRC

Analysis and evaluation of the data needs of the LRC should be carried out on a regular, if infrequent, basis. A full assessment ought to be carried out perhaps annually, but the LRC's processes for assessing data needs should enable the LRC to evaluate the relative value of a data-set at any time.

The various aspects of understanding an LRC's data needs may be covered in separate policies and procedures (as in the attached case study). However, they are considered collectively below.

2.2 Policy

It is important to note that this section assumes that users' needs have already been assessed as part of a process of business planning. Procedures for doing this are given in *Developing a Local Record Centre*.

An LRC must be clear about whose needs it will consider in determining its own data needs. If the LRC is well developed, it will normally already be working closely with all core users; it is primarily these users whose needs should be considered. However, if an LRC is still developing, further users may need to be considered. If a developing LRC was to concentrate solely on existing core users, this could narrow the focus too much so that the LRC did not have the necessary data to encourage new users. On the other hand, if an LRC identifies data needs that are too broad, there will be insufficient prioritisation, and the LRC will be in danger of over-stretching its resources.

The LRC should base its data needs on the needs of its core users, potential users that have been identified as a priority and existing contractual users. The LRC's management board must determine the relative importance to be placed on these different types of users. The policy should state these priorities.

The LRC should have a policy on prioritising data acquisition, for use once it has identified data-sets that it does not hold or have access to but requires to meet its data needs. The policy must state how the LRC will prioritise data-sets for acquisition and how it will deal with data which it is offered but which do not fit within these priorities. The priorities should drive not only data acquisition, but also relationship building with data suppliers. The policy may also address how the LRC will tackle data-sets that have been identified as essential (ie that the LRC cannot meet its users' needs without, but that are not available through any third party). This should cover whether the LRC will commission surveys, either itself or on behalf of its users.

2.3 Procedures

Procedures for data needs analysis can be difficult to document; the processes used cannot, by their nature, be 'scientific', and do involve a degree of evaluation by the LRC. However, to assess data needs and identify priorities for acquisition, an LRC should:

- work from users' needs to derive a list of data needs for the LRC
- compare these needs against the data holdings of the LRC
- identify priorities against this list both for maintaining existing data-sets and acquiring new ones

There should be a regular, but infrequent, review of data needs and priorities for acquisition (eg annually).

The criteria for identifying priority data needs should be documented and widely available, as should the current list of priority data-sets the LRC is seeking to acquire.

The priority list of data-sets should determine the LRC's priorities for seeking out data, building relationships with potential data suppliers and processing data. The LRC needs clear processes for working with existing data suppliers and seeking out new ones.

While an LRC should accept data offered to it which are not within its list of priorities, it needs a process for evaluating such data against the list. The assessment should then rank data in terms of priorities for data processing. Data suppliers must be made aware that their data are low on the list of priorities and may not be processed for some time.

2.4 Process of developing the policy and procedures

The policies and procedures considered here relate mostly to longer-term strategic planning within the LRC. With the exception, perhaps, of the policy on prioritising data acquisition, they are unlikely to be controversial, and probably do not require the involvement of a range of participants in their development. The most suitable forum for discussion and review is likely to be the management board or similar body.

2.5 References

Developing a Local Record Centre. NBN, 1999.

Case study

Understanding data needs

Hertfordshire Biological Records Centre

Background

Hertfordshire Biological Records Centre (BRC) was formed in 1989 as part of the Hertfordshire County Council and provides services to the County Council, seven of the 10 district councils, English Nature and Herts & Middlesex Wildlife Trust. The BRC is unusual in that, as well as managing and supplying data, it also provides an ecological advisory service to the County Council and district councils. Hertfordshire BRC holds information on 5,000 sites (including county Wildlife Sites) on ArcView and Recorder.

Hertfordshire BRC has a management board that is responsible for strategic planning and a users group with representatives from all the paying sponsors (users). Currently, there is no recorders forum, but one will shortly be re-established. However, the BRC has good relationships with local recorders, particularly through the Hertfordshire Natural History Society, and through the fact that a number of the BRCs staff are county recorders.

Discussion

Hertfordshire BRC has three policies and procedures developed that address data needs. These are:

- identification of data to meet user needs
- prioritisation of data acquisition
- sources of data and relationships with data holders

The policies and procedures are given in full at the end of this section.

Identification of data to meet user needs

This policy and the associated procedures incorporate not only the assessment of users data needs, but also the assessment of existing data holdings and the assessment of others data-sets. The policy statement makes it clear that the BRC will assess the data needs of its partners and main users and regularly review these needs, and describes the minimum data requirements of the BRC. The background to the policy describes what are perceived as the main activities for which the BRCs users need data.

The procedures describe the mechanisms by which partners needs will be reviewed, including a users group, internal and external consultations and three-yearly business plan reviews. As well as describing the types of data the BRC will seek, it outlines the mechanisms for assessing the adequacy of the BRCs existing data holdings and other relevant data-sets.

The policies and procedures developed by Hertfordshire BRC are comprehensive and include considerable background material. However, because only the *current* importance of specific activities and data-sets is described, it is necessary to review them regularly to ensure that the information does not become out of date.

Prioritisation of data acquisition

This policy follows on directly from *Identification of data to meet user needs,* described above. It covers how priorities for acquiring data are set. The three-yearly business plan review is described as the mechanism for the review of data priorities. The current minimum data requirements are described in Appendix 2. Both appendices will need to be updated as reviews take place.

Sources of data and relationships with data holders

This policy considers how to identify organisations which hold data relevant to the BRC. It includes an appendix describing types of potential data holders and names of relevant local organisations. The techniques described for identifying data holders include developing and maintaining a register of data holders and promoting staff involvement with these organisations. Although relying on personal staff relationships with recording groups can leave an LRC vulnerable if staff leave, direct involvement of LRC staff with partners, especially voluntary bodies, can be an effective way of maintaining good working relationships.

The procedures refer specifically to a number of local organisations that the BRC will ensure it maintains relationships with. As with the procedures discussed above, these need to be regularly reviewed to make sure they remain up to date.

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Policy on the Identification of Data to meet User Needs

1. Policy Statement

The Centre will assess and review the data requirements of the products and services agreed with its partners and main users, and defined in relevant Service Level Agreements. Data-sets needed to meet those requirements will be identified and their collection prioritised, according to the policy on the 'Prioritisation of Data Acquisition'.

1.1 The Centre will regularly review user needs in conjunction with its principal users. Changes in need that should be considered include those affected by:

- alterations in protected species and site legislation.
- alterations in planning legislation.
- alterations in government and local government policy.
- new conservation initiatives such as national and local Biodiversity Action Plans.

1.2 The data needs of users identified by the Centre should include as a minimum the acquisition of data:

- to enable habitat assessment relative to the area of coverage of the Centre, namely the administrative County of Hertfordshire.
- to enable the identification, assessment and justification of Wildlife Sites within that area.
- on the occurrence of protected and scarce species, including species scarce in the County context.
- on the distribution and autecology of priority groups such as habitat indicators.
- for agreed environmental monitoring and Biodiversity Action Plan purposes etc.

2. Background to policy

2.1 The primary products and services required under the Centre's Service Level Agreements relate to:

- Planning – development control and planning policy.
- Site management.
- Species protection.
- Monitoring, including base-line distribution measurement of species, and monitoring of habitat quality.
- Ecological research, including the needs of data providers.
- Public education.

Within each area fundamental outputs may be defined which require different data-sets and approaches to their acquisition:

2.1.1 Planning

- The identification and assessment of Wildlife Sites, incorporating habitat and species data, particularly that relating to protected and scarce species.
- The provision of manual and GIS based OS maps (at a minimum 1:10,000 scale) indicating Wildlife Sites and other sites of more local value for which data are available.
- Habitat survey reports and summaries.
- Monitoring of planning applications, especially in relation to Wildlife Sites and protected species.
- Site assessment and provision of planning responses.
- Provision of adequate base-line data for support of planning decisions in the light of national legislation, and local policy.

2.1.2 Site management

The provision of ecological information for the development of management plans or for the provision of advice on specific management objectives.

2.1.3 Species protection

- Acquisition of data to support species protection programmes, especially for legally protected species
- Acquisition of data to support UK and local BAP targets.

- Acquisition of data to develop and maintain local "Red Data" designations.

2.1.4 Monitoring

The provision of information to biodiversity audits and the Hertfordshire State of the Environment Report, including sampling of monitoring target species, BAP targets and summary environmental trend data.

2.1.5 Ecological research

The collation of data on a range of species groups and habitat types which will provide a foundation for future studies, particularly for broad-scale studies of distribution and abundance.

2.1.6 Public education

The provision of summarised information on key habitats and species of particular interest to the general public, including students.

2.2 Data-sets will be identified and acquired principally on the basis of their ability to provide the information necessary for the Centre to provide the products and services defined in the Centre's Service Level Agreements with its principal users.

2.3 The data needs of users are likely to change over time as alterations in protected species and site legislation, planning legislation and government and local government policy take place. The Centre needs to be aware of and make provision for the impacts of such changes. In addition the Centre needs to keep abreast of new conservation initiatives such as BAP that affect the data needs of its users.

3. Links to other policies

Data collection and recording (all areas)

These policies define the processes by which HBRC seeks to deliver the type and quality of information necessary to meet the identified needs.

Information products and services (all areas)

The principal products and services define the way in which the Centre will deliver what its users need, which is inevitably limited to some extent by the way in which the information is collected.

Working with data providers

The success of the Centre in acquiring relevant data to meet its users' needs will depend crucially on the way in which it relates to its actual and potential providers.

4. Procedures

4.1 Assessment of users' needs will be carried out on a regular basis by:

- Establishing a BRC User's Group, consisting of those principal users which support the Centre's activities, and holding review meetings to examine forthcoming needs at least three times a year.
- Ensuring through internal and external consultations that needs identified in this way are used to define realistic data requirements which can be fed into the Work Programme through an agreed process at least annually. This will also especially involve working with the Hertfordshire Wildlife Sites Liaison Group and the Biodiversity Action Plan/Nature Conservation Topic Group to identify further areas of need.
- Review these overall user needs and data requirements in the light of changing policies and legislation on an annual basis.
- Maintain a rolling programme of 3-yearly Business Plan reviews, including a more rigorous and broader sounding of other users and general business needs against policy background, including both nationally and locally, the Business Plan to be agreed and signed off by the Centre's Management Board.

4.2 The Records Centre will seek to acquire:

- All data necessary to meet the requirements of assessment criteria on all sites of Wildlife Site quality within its geographical area and ensure that this is updated on a 10 yearly basis.
- Reliable and adequate data relevant to uniform habitat information on its geographic area to a minimum of English Nature's Phase 1 standard and will endeavour to update this on a 10 yearly basis.
- Species distribution and abundance data especially on protected species and on Red Data and Scarce species, including species scarce in a County context, within its area. It will also seek to acquire general species distribution/abundance information on prioritised taxonomic groups, dependent on the availability of expertise locally, or the availability of relevant data-sets from elsewhere.

4.3 Assessing the adequacy of existing data will be carried out in two parallel ways:

4.3.1 The Centre's existing data holdings will be the subject of regular (at least annual) reviews in collaboration with outside expertise where necessary, to assess their adequacy against the identified needs and policies of users etc. This will be carried out in the light of the policies identified above to try and ensure that specific data-sets meet minimum criteria on date, coverage and accuracy. In particular:

Habitat survey data will be reviewed to judge whether its likely accuracy requires repeat surveys or partial re-survey. Within the policy of a preferred 10-year review there may be some flexibility, owing to the differential changes likely between different habitat types and areas.

Species data holdings will need review in the light of changing national legislation on protected species, development of BAP priorities, local developments in conservation needs etc. These reviews will include in particular:

1. Protected species data, including specialised information on their habitats and conservation status, including bats, badgers, other protected mammals, reptiles/amphibians, key breeding birds, and other statutorily listed species breeding or dependent on habitat within the County.
2. Population and distribution data on Biodiversity Action Plan species, both for the local BAP and other national BAP priority species.
3. Primary botanical distribution and abundance data on at least a 25-year time-scale to determine the quality and relative value of habitats.
4. Data concerning the occurrence, distribution and population trends of principal habitat or sustainability indicators, including indicators identified for the Hertfordshire State of the Environment Report annual updates. Identification of relevant habitat indicator groups or species will take account of the reliability and evenness of recording effort, the accessibility/state of the data-set, and the relevance of species to the identification of environmental quality parameters.

4.3.2 In parallel with the review of the Centre's existing holdings, it will undertake a range of actions to attempt to ascertain the quality and accessibility of other relevant data-sets. In particular it will:

Take an active role in the recording work of the Hertfordshire Natural History Society and other relevant societies in as many specialist areas as possible, particularly those concerning key species groups, as identified above.

Develop close working relationships with the Society's county recorders and other specialists in the county, with a view to gaining an accurate picture of current data holdings and recording effort and assisting with its development. In particular this will involve:

1. Reporting to and taking an active role in the County Records Committee of the Society.
2. Regularly exchanging data in specialist areas.
3. Ensuring that data holdings in the Centre are validated by the relevant Recorder or specialist.
4. Assisting Recorders through the provision of maps and recording forms etc. for recording purposes.
5. Keeping Recorders informed on the current status and boundaries of sites.
6. Supporting the production of relevant publications.

Develop and maintain policies and procedures over the use and access to relevant data held by the Societies, their Recorders and other specialists, and ensure that a programme of review of these policies and procedures is written into the Centre's Business Plan.

Ensure appropriate support is given to agreed key recording groups or individuals over field survey, data management and volunteer liaison.

Work with other relevant organisations and agencies, e.g. the University of Hertfordshire, English Nature, the Environment Agency, other relevant national biological societies and the Hertfordshire & Middlesex Wildlife Trust to identify other sources of reliable data in and around the County, through personal contact, and the development of exchange agreements.

Through the NBN and other contacts, ascertain what data holdings relevant to the County are available elsewhere, especially where this complements data held locally.

4.4 The review of data needs and the assessment of data quality and availability etc. will be used in the Centre's business planning process to review its own survey and data acquisition programme, in relation to partners' work, and especially relating to the Hertfordshire BAP and the Wildlife Sites Project with their priorities. This will be achieved by:

· Taking an active part in the steering and development of the Hertfordshire BAP.

· Taking an active part in the work of the Hertfordshire Wildlife Sites Project, including objective setting, determination of assessment criteria and provision of survey as well as data-management support. This will also include regular reviews of the Habitat Survey of the County, and working with relevant partners to develop survey programmes.

Policy on the Prioritisation of data Needs

1. Policy Statement

The acquisition of data from data holding organisations will be prioritised according to defined criteria relating to users' data and service needs.

1.1 Sub policy

Data acquisition will be prioritised to meet the identified needs of major user groups, as defined in the policy on Identification of Data to meet User Needs. See Appendix 1 for current priority areas.

2. Background to policy

2.1 It is impractical for the Centre to collate and maintain all the potential biological data relating to its area. It is important that data acquisition is prioritised to meet users' data, product and service needs. These needs require regular review and updating to take account of changing policies and practices locally and nationally.

2.2 The process of prioritisation must involve all relevant organisations with an interest in the Centre's operation, in order to ensure both the relevance of the priorities, and the support of both providers and users of data and information.

3. Links to other policies

Identification of data to meet user needs.

This is the principal policy which describes the way the Centre relates user needs to data acquisition. The prioritisation policy is a refinement of the way in which the Centre puts that policy into operation.

Data collection and recording.

These policies define more closely the mechanisms involved in collecting data, which will be informed by the processes of prioritisation.

Data management and processing.

The data management processes will be influenced by the prioritisation policy

Information products and services (all areas).

The output of the Centre directly influences the prioritisation process.

4. Procedures

4.1 The Centre will define and agree with relevant partners key lists of species or groups of species for priority data acquisition as follows:

- Keep up-to-date checklists of protected species in its area.
- Keep up-to-date lists of Biodiversity Action Plan species relevant to its area.
- Maintain up-to-date information on species identified as nationally endangered, vulnerable, rare or scarce relevant to its area.
- Work with partners to identify and regularly review species considered to be scarce in the local (Hertfordshire) context, according to criteria laid down locally, over and above those identified as nationally scarce.
- Agree and define key target species for environmental monitoring and the kind of information required for each.
- Agree check-lists of indicator species for defining habitat character and quality in Wildlife Site Assessments.
- Agree priority taxonomic groups relevant to the measuring of environmental quality.

4.2 The Centre will also maintain a standard set of habitat definitions according to nationally recommended practice for use in recording, and will prioritise data acquisition in relation to key habitats identified with partners as requiring attention.

4.3 The Centre will use these indicator lists and habitat priorities, in conjunction with priorities identified from users' needs, to develop a data acquisition and recording programme, which will be agreed on at least a three-yearly basis as part of the Centre's Business Plan, and reviewed at least annually.

4.4 The Centre will establish with its users and other relevant partners a suite of minimum data set requirements, and review these on at least a three-yearly basis as part of the Business Plan review. See Appendix 2 for current requirements.

Appendix 1 – Current priority areas for data acquisition

1. Data will primarily be collected to inform planning policy, development control, research, land management, environmental education and nature conservation activities within the area covered by the Centre. The priority areas for data acquisition will be:

- Habitat data, particularly concerning semi-natural habitats.
- Sites data, including management, ownership, boundaries etc.
- Protected species data.
- Scarce species data.
- Species distribution and autecological data relevant to the Centre's objectives.
- Summary data for environmental monitoring.

2. Within these major data headings further prioritisation will be carried out:

- Data for the designation and assessment of Wildlife Sites.
- Habitat indicator species information.
- Protected and scarce species data where taxonomic expertise is readily available within the local area, or where relevant data-sets are readily available from elsewhere.
- BAP species data, including data to identify future BAP targets.

Appendix 2 – Hertfordshire BRC minimum data-set requirements

- Phase I habitat data in map form for the administrative County of Hertfordshire, up-dated on a 10-yearly basis as necessary.
- Target notes to at least Phase I and preferably Phase II level for all Wildlife Sites in the County, including lists of key indicator species, and data on physiography and land management.
- Data on site boundaries, legal status, management units etc. for all Wildlife Sites and other known sites of ecological interest in the County.
- Up-to-date information where possible on the occurrence of all protected species in the Centre's area.
- All records of Red Data, scarce or locally notable species, including where possible site and habitat data.
- As complete and up-to-date coverage as possible of key taxonomic groups for assessing habitat quality, relative to its availability locally:
    1. Vascular plant data.
    2. Dragonfly data
    3. Butterfly data.
    4. Mammal data.
    5. Key breeding bird data.

Policy on Sources of Data & Relationships with Data Holders

1. Policy Statement

The Centre will identify, develop and maintain relationships with organisations that hold, or potentially hold significant biological data relevant to its area of coverage and data acquisition priorities as set out in 'Policy on the Prioritisation of Data Acquisition', with a view to identifying relevant data holdings and encouraging their supply.

2. Background to policy

2.1 The Centre needs to ensure as comprehensive data coverage as is possible relevant to its users' needs. It also needs to ensure data quality is maintained, to demonstrate continued relevance, and to engender support, both from its suppliers and its users.

2.2 There are a number of organisations which can provide data which are described in Appendix 1. Separate procedures will be required for these differing categories of organisations and individuals, some of which will be of lower priority for action.

2.3 It is impractical for the Centre to collate and maintain all the potential biological data relating to its area. However, it is important that the Centre is aware of the location, validity and availability of data sets relating to its area of operation which either it has been unable to acquire, or which are non-priority data sets.

3. Links to other policies

Identification of data to meet user needs:

This looks more closely at how the data held by these organisations and individuals can be assessed for relevance to the aims and needs of the users.

Public information gathering:

Looks more closely at the means of encouraging the general public's involvement in data gathering.

Data exchange:

Policy defines arrangements whereby data is exchanged between partner organisations and the Records Centre, including formal agreements and protocols on data use.

Working with data providers:

Policies on the mechanisms for maintaining a watching brief on the capability of data providers to maintain supply, including assistance needed, encouragement etc.

Services offered to data providers:

More specific policies on the kinds of services which can be offered to data suppliers to encourage supply

4. Procedures

4.1 To establish the extent and quality of biological data holdings relevant to the Centre's area of operation, the Centre will:

- Develop and maintain a register of organisations and individuals with data holdings for all habitats and taxonomic groups (except bacteria, viruses etc.) within its local area, including those for non-priority groups which the Centre may not currently need to acquire. This may be done through personal contact, questionnaires etc.

4.2 To develop and maintain relationships with data holders, the Centre will:

- Encourage its staff to develop and maintain personal relationships and involvement with data holding organisations and their activities where practicable.
- Ensure that Centre staff take an active role in relevant committees, meetings and specialist symposia concerned with natural history, biological recording, nature conservation and related activities.
- Hold a regular forum on biological recording in its area, at least annually.

4.3 To make the best use of its limited resources in this area, the Centre will:

- Prioritise its involvement with data holding organisations in relation to the extent, quality and relevance of the data they hold, and the organisation's commitment to recording and use, relative to the objectives of the Centre's principal users.
- As a minimum, will develop and maintain active relationships with the following data providers:
    1. Hertfordshire & Middlesex Wildlife Trust
    2. Hertfordshire Natural History Society (and its associated groups)
    3. Hertfordshire & Middlesex Bat Group

4. Hertfordshire Middlesex Badger Group
5. Hertfordshire Amphibian & Reptile Group
6. London Natural History Society
7. Botanical Society of the British Isles
8. British Trust for Ornithology (local organiser)
9. English Nature
10. Environment Agency
11. North Hertfordshire and St Albans Museums Services
12. University of Hertfordshire
13. Hertfordshire Outdoors
14. Lee Valley Regional Park Authority
15. Chilterns Area of Outstanding Natural Beauty

4.4 Where appropriate to the objectives of the Centre and its users, the Centre will develop and maintain relationships with relevant bodies which are able to assist with biological recording and data supply. These will include:

Academic institutions, especially the University of Hertfordshire, through:

- Suggesting and directing projects relevant to recording in the County.
- Assisting with survey methodologies and data manipulation.
- Providing placements for students relevant to the Centre's objectives.

Museums, especially North Hertfordshire Museums Service, by:

- Assisting with the development and maintenance of facilities for the curation and archiving of natural science materials and collections relevant to biological recording in the County.
- Operating partnerships in field surveys and volunteer recording activities.

Satellite records centres, especially Hertfordshire Outdoors, through:

- Assisting with the provision and setting up of recording facilities, including protocols, hard and software, advice on methodology etc.

Local authorities and ancillary organisations, notably planning departments and land managers, including the Countryside Management Service, through:

- Maintaining close working relationships over site management and monitoring programmes
- Negotiating with planning authorities etc. over the acquisition of relevant environmental statements, reports etc. containing biological data.

Landowners and managers, through their agents or other organisations acting on their behalf, especially by:

- Maintaining active relationships with the Farming & Wildlife Advisory Group and MAFF.

The general public, especially those able to supply accurate information, through:

- Providing a specialist enquiry and referral service.

Appendix 1 Data providing organisations

Organisations which provide data can be divided into ten classes:

1. Nature conservation organisations including government and voluntary organisations which collect data in specific areas or for specific purposes:

    Hertfordshire & Middlesex Wildlife Trust
    RSPB (Rye House Marsh)
    English Nature
    Farming & Wildlife Advisory Group
    Woodland Trust

2. Research institutions, including universities and museums:

    University of Hertfordshire
    University of Middlesex
    IACR Rothamsted
    North Hertfordshire Museums Service
    Museum of St Albans

Natural History Museum (Tring)

3. Other governmental and voluntary organisations that collect biological data as part of a wider remit :

Environment Agency (Hatfield)
Farming & Rural Conservation Agency
Hertfordshire/Barnet Countryside Management Service
Lee Valley Regional Park Authority
Chilterns Area of Outstanding Natural Beauty
Forestry Authority
Watling Chase Community Forest
Groundwork (Hertfordshire)
Local Authorities

4. Recorder groups, including constituted clubs, societies and recording schemes comprised mainly of amateur naturalists:

Hertfordshire Natural History Society (including the Hertfordshire Bird Club, the Hertfordshire Mammal Group, the Dragonfly Group, and the Hertfordshire Geological Society, as well as County Recorders for specific taxonomic groups)

Hertfordshire & Middlesex Bat Group
Hertfordshire & Middlesex Badger Group
Hertfordshire Amphibian & Reptile Group
Botanical Society of the British Isles (local group, joint with HNHS)
Hertfordshire Moth Group (joint Butterfly Conservation & HNHS)
Butterfly Conservation (joint group with HNHS)
British Dragonfly Society (joint with HNHS)
British Mycological Society (local group, joint with HNHS)
British Naturalists Association (local group)
Welwyn Natural History Society
Cheshunt Natural History Society
Letchworth Naturalists Society
London Natural History Society
Bishops Stortford Natural History Society
and other links with national recording schemes.

5. Satellite records centres:

Hertfordshire Outdoors
Hertfordshire & Middlesex Wildlife Trust

6. Community groups comprised of people with an interest in their environment who would not normally consider themselves to be naturalists.

7. Consultancies who collate and collect biological information as part of their work.

8. Commercial organisations, e.g.:

Thames Water PLC
Three Valleys Water Company
British Waterways
Ready Mixed Concrete

9. Landowners and their representatives, e.g.:

Country Landowners Association

10. Individual members of the public with a casual interest in wildlife.