11 Data providers
Introduction

An LRC should be the primary custodian for biological data relating to its geographical area. It should also be at the heart of the flow of data within this area and beyond. The LRC must work with a range of different data suppliers, often supporting them and managing their data as the custodian. However, an LRC will not normally hold all the data generated within its area and sometimes it may support individuals or groups acting as their own data custodians.

It is important that an LRC develops data flows that ensure the roles of different players are clear. Well-established data flows allow recorders to make the best use of their specialist skills, and should ensure that data are managed and made accessible in one place, the custodian taking a clear responsibility for the data.

An LRC relies on volunteer recorders and must secure their cooperation if it is to achieve its objectives. The LRC's way of working with recorders should vary according to the different types of recorder: these are, principally, individual recorders, recorders who work as part of recording schemes, and members of the public. The LRC must find ways of communicating its priorities and required standards in ways that are appropriate to the different types of recorder. The LRC should formalise some of these arrangements, especially agreements for the supply of data to the LRC and the terms and conditions under which data will be managed. The LRC should support and encourage all recorders. It should be able to provide them with advice and support on recording techniques and standards and should seek to encourage recording that accords with the priorities of its users.

Almost all LRCs will receive data from the general public, but not all will deliberately solicit these data or support public recording activities. LRCs must carefully evaluate the role of the general public as a source of records and decide how much they are prepared to invest in providing support to public information gathering.

12 Data flows

Policy & Principles

- An LRC should simplify and clarify the flow of data between parties involved in data provision, management and use.
- Data flow models should take into account the needs of data providers and users.
- Data flow models should be confirmed with participants in written agreements.
- As the NBN develops, LRCs should continue to review data flows, to take advantage of new ways of working.

12.1 Background

One of the aims of the NBN is to standardise paths of data flow and this should be borne in mind by an LRC when it is forming and improving links with data providers.

The main advantages of developing effective models for the flow of data are in simplifying the procedures for data providers and in making it clear who they supply data to and how data are processed and passed on to others. This can save considerable time and effort, particularly for individuals and small groups. Potentially, there are considerable benefits to the NBN as a whole in the adoption of effective data flow models that ensure that data are stored and managed once, but used many times. Data should be managed at one agreed location (by the data custodian) and made available to a wide range of users. The custodian acts as the definitive source of these data and is the only party able to make changes to them. Users may hold copies of the data temporarily and should have a system for receiving updated data-sets from the custodian at regular intervals to ensure that they are using the most recent data.

An LRC is well placed to act as a data custodian and it should do so for much of the data it needs access to, although it may also need access to data held by other bodies. When it takes on the role of data custodian, an LRC must work with all interested parties to develop data flow models that will ensure that access to data is provided with a minimum effort to all who need them.

12.2 Policy

LRCs should develop and agree data flow models with all their data providers. The models should describe who will take responsibility for different tasks involved in managing the data, who will act as the custodian of the data and who will provide access to the data. An LRC should have a number of standard data models that it uses as the basis for developing relationships with different types of data provider.

An LRC should offer data management services to some volunteer recorders and local recording groups and organisations, in return for access to their data. Such services should usually only be provided to individuals or groups who supply data of a high priority to the LRC (see section 2 *Data needs*).

In many ways, the easiest solution to managing complex data flow patterns is for the LRC to act as the custodian as well as the data supplier, as this overcomes many of the problems associated with supplying data, such as duplication of records and maintenance of copyright. This also ensures that data are held and supplied in accordance with NBN standards and gives the LRC overall responsibility for data management, leaving recorders free to use their expertise in recording and identification. This should be the LRC's normal relationship with organisations (eg local teams of statutory agencies, local authorities and wildlife trusts) which want the LRC to provide a data management service on their behalf (see section 33 *Data management services*).

Eventually, LRCs should be able to use the internet to access remote data-sets, such as those held by local groups, thereby ensuring that there is only one copy of any particular data-set. However, at present LRCs normally hold copies of remote data-sets so that they have access to the data even though the master copies are held elsewhere.

12.3 Procedures

Detailed procedures for managing the flow of data between data providers and the LRC should be documented, even if the flow of data is simple and the roles clearly distinguished. Procedures should state what the LRC will do on behalf of the data provider and who it may supply data to (see also section 29 *Data supply*).

Voucher specimens are a vital part of many data-sets. They may be held by local collectors, a museum, a local expert or the national office of a recording scheme. The LRC should attempt to discover where existing collections are held and should agree on a standard method for passing on voucher specimens.

The procedures may set out the model in a flow diagram. They may also set out schedules for data flow, such as the specific dates or deadlines for data to be transferred from one party to another. The procedures may vary considerably according to the type of data provider involved. It is likely that the LRC will have to agree on different models for some recorders and certain recording groups. Although several standard models may eventually emerge that can be applied to a number of different data providers, the LRC should approach each data provider individually to agree ways in which current data flow patterns can be improved.

12.3.1 Producing a model for data flow

The LRC should aim to simplify the flow of data as much as possible. The most efficient systems involve information flowing in a number of closed loops with the LRC as the central point of these pathways. There may be simple pathways for unverified data flowing in to the LRC, and more complex loops for data undergoing verification before the LRC ensures that these verified data are made available. The development of the NBN Gateway may alter these data flows somewhat as access to data becomes easier and the location where data are finally managed may become less significant to users. However, for most LRCs this is some way off and models of local data flow provide at least an interim solution.

The timing of data flow within the model is important. Deadlines should be agreed for the various stages of data transfer.

The simple 'loops' model makes the LRC the 'focal point' through which data will always pass during the different stages involved in its processing and the agent co-ordinating all data transfers. However, this ideal may not always be possible. For example, many national schemes spend much of their time managing data and may see this as their key role. In some national schemes the distribution of recorders is uneven, or there are very few individuals involved; in such instances the national scheme might be best placed to manage the data, making them available to LRCs. The kind of working model achieved in most situations depends on the factors discussed above and, to a certain extent, the 'people politics' of an area—as the case studies demonstrate. There will be many advantages for both LRCs and national schemes and other organisations when arrangements between the two groups can be brokered nationally on behalf of all LRCs.

12.3.2 Working with many different recording groups with varying structures

In some situations, the LRC may find that there is more than one group separately recording the same taxa locally. For example, the county mammal recorder linked to The Mammal Society and the local bat group may all collate data on bats. There may also be local independent groups, a local wildlife trust and members of the public all collecting data. The statutory conservation agency will also hold some data – possibly derived from these sources. Some of these data may be collated nationally, whilst other data may never leave the individual recorder.

The LRC's first task is to find out how data are flowing at present (ie who is recording, what records are being collected and where these records are being sent). To add to an already complicated picture, the national and local structures of recording schemes can mean that there are several tiers of recording, processing and management.

Local natural history societies, universities and museums also play important roles in the collection and storage of data.

12.3.3 Contractors and organisations as data providers

LRCs receive data from contractors (either working directly for the LRC or through another body) and from local organisations such as local authorities, statutory agencies and wildlife trusts. The LRC should normally act as the data custodian and manage data on behalf of other organisations. Here, data flow is normally very simple: the data provider supplies the data to the LRC, which is then responsible for managing and disseminating the data (see section 33 *Data management services*). All access to the data should take place through the LRC, including access for the data providers themselves.

12.3.4 Working with local recording groups

Local groups may or may not be affiliated to national schemes or societies. They may be fairly small, but they can have complex structures, comprising both individuals and smaller groups. Some local recording groups are branches of national schemes, and are headed by county recorders. Local groups vary widely in structure and organisation, and can be some of the most difficult groups to work with.

Data may flow into a group in a number of different ways and flow out to any number of national schemes, or they may only flow between group members. This can lead to a great deal of duplication of data and effort, both locally and nationally. The more complex the existing system of data flow is, the more difficult it is to work out how and where the LRC should fit into the system.

A potential problem with local groups is that, although a group may agree to work with an LRC, individuals within the group may dissent. This can lead to problems with data supply. In such a situation, the LRC needs to exercise tact and good negotiation skills to convince all members of the group of the benefits of working together.

Local groups can be easier for an LRC to communicate with than national bodies, simply because they are smaller and closer to home. In addition, a local group may feel that an LRC can provide more support and represent their interests more fully than a remote national society.

An LRC can provide local groups with all the support it gives individual recorders, but is also able to offer additional services such as:

- acting as a link between the group and the relevant national society, taking some of the load off the county recorder or group secretary by collating and sending out annual reports
- producing local distribution maps and reports

See also section 14 *Working with data-providing organisations*.

12.3.5 National schemes and societies as data providers

The variation between national schemes and societies leads to significant differences in the level of recording of different taxa across the country and in the types of data that are collected. The data may be stored in a variety of formats and in a number of different places. This can lead to difficulty in extracting a particular data-set and problems with duplication of records.

An LRC should offer a unique opportunity to national schemes to manage data efficiently, increase available records and add to research and conservation effort. To achieve this, the LRC must be able to act as a safe and efficient data custodian. It should offer co-ordination of data between national and local levels, and be able to provide controlled access to the data it holds.

A concern occasionally expressed by national schemes is that certain records supplied by LRCs may be unreliable. The quality of the data an LRC receives can vary considerably, depending on the methods used for their collection and the experience of individual recorders. Verification of records is therefore a vital step in managing data. The point at which this is undertaken will vary according to the particular model used, but it is good practice to leave this task to an appropriate expert, usually a county recorder or other member of the relevant national scheme (see section 6 *Species identification—verification*).

Building verification into the data flow process should allay most of the concerns of national schemes regarding data quality. It is also to include metadata about the survey methods used with each data-set, in addition to the surveyor's details. Then national schemes and societies wishing to use data held by the LRC (eg for a distribution atlas) can judge whether the data are of sufficient quality for their purposes.

12.3.6 Individual recorders as data providers

Relationships between individual experts and LRCs can be particularly important, since experts are often the only local source of data for particular taxa, and often possess a great deal of important information. Most individual experts are likely to want the LRC to act as data custodian on their behalf. Again, the data flow in this instance should be relatively simple.

It can be easier to work with individual recorders, as the LRC need only negotiate with one person. Conversely, relationships can become strained in the event of personality conflicts. Relationships often depend on what services can be provided to the individuals—see section 13 *Working with data-providing individuals.*

12.4 Process of developing the policy and procedures

Models for data flow should be drawn up in close consultation with data providers and LRC users. Whilst much of the detailed work should be carried out by LRC staff and the individuals concerned in each organisation or group, it is appropriate to discuss the LRC's broad policy through both users' and recorders' forums, where they exist.

Data flow models should be reviewed regularly to ensure that they are effective and meet the needs of data providers, users and the LRC itself. The development of the NBN will bring in new ways of working that mean data can flow differently and, whenever possible, LRCs should review data flows and develop more effective methods of working.

Case study 1

Data flows 1

Dorset Environmental Records Centre and Butterfly Conservation

Background

Dorset Environmental Records Centre (DERC) was established in 1976 as an independent organisation to collate information on Dorsets wildlife. It is managed by a panel of trustees, with representatives from Dorset County Council, Dorset Natural History & Archaeological Society, Dorset Wildlife Trust and English Nature. With a small core staff, the LRC depends on contracts and grants.

DERC has had good links with local recorders and national schemes for many years. It has encouraged the flow of data to fit in with its annual cycle of data management (shown below). Beyond that, each scheme has been managed in a slightly different way, according to historical differences and people politics. DERC has always tried to be adaptable and helpful, rather than enforcing a standard model.

However, the NBN aims to set standards and to encourage agreement on paths of data flow. DERCs records have not been passed on to national schemes and societies on a regular basis. Because data flow has been intermittent or data have been passed on by individuals rather than through the LRC, there are numerous duplicate and overlapping data-sets.

The case study demonstrates the progress DERC has made in developing a model for data flow with Butterfly Conservation.

Establishing a new model for data flow

DERC already had a model for data flow with Butterfly Conservation that worked reasonably well. However, it was felt that this could be improved and developed to benefit both parties. A new model was therefore developed, based on the following principles:

The data flow model, if it is going to work, must ensure that each organisation has the data it needs both for its own work and, if appropriate, for wider dissemination.

Data should be made widely available, but with appropriate limits on the provision of data on sensitive species.

There should be charges for consultants using data.

Recording groups need to recognise that DERC is a small charity, which must guard its long-term future by making charges for the provision of data where appropriate.

Butterfly Conservation recognises that provision of free Dorset data by its National Office could undermine the long-term sustainability of DERC.

Working with Butterfly Conservation

Butterfly Conservation has well-organised national recording schemes. It has a good structure of regional and local groups, and is well co-ordinated at the national level. It published the *New Atlas of Dorset Butterflies* in 1998, and has now completed the national atlas project, *Butterflies for the New Millennium*. DERC has worked closely with the local branch of Butterfly Conservation, with the help and co-operation of the national scheme.

DERC now acts as the data custodian for Butterfly Conservation in Dorset. It is responsible for ensuring that the data are managed according to the terms of the NBN. DERC holds the master copy of the data and is responsible for any changes to those data.

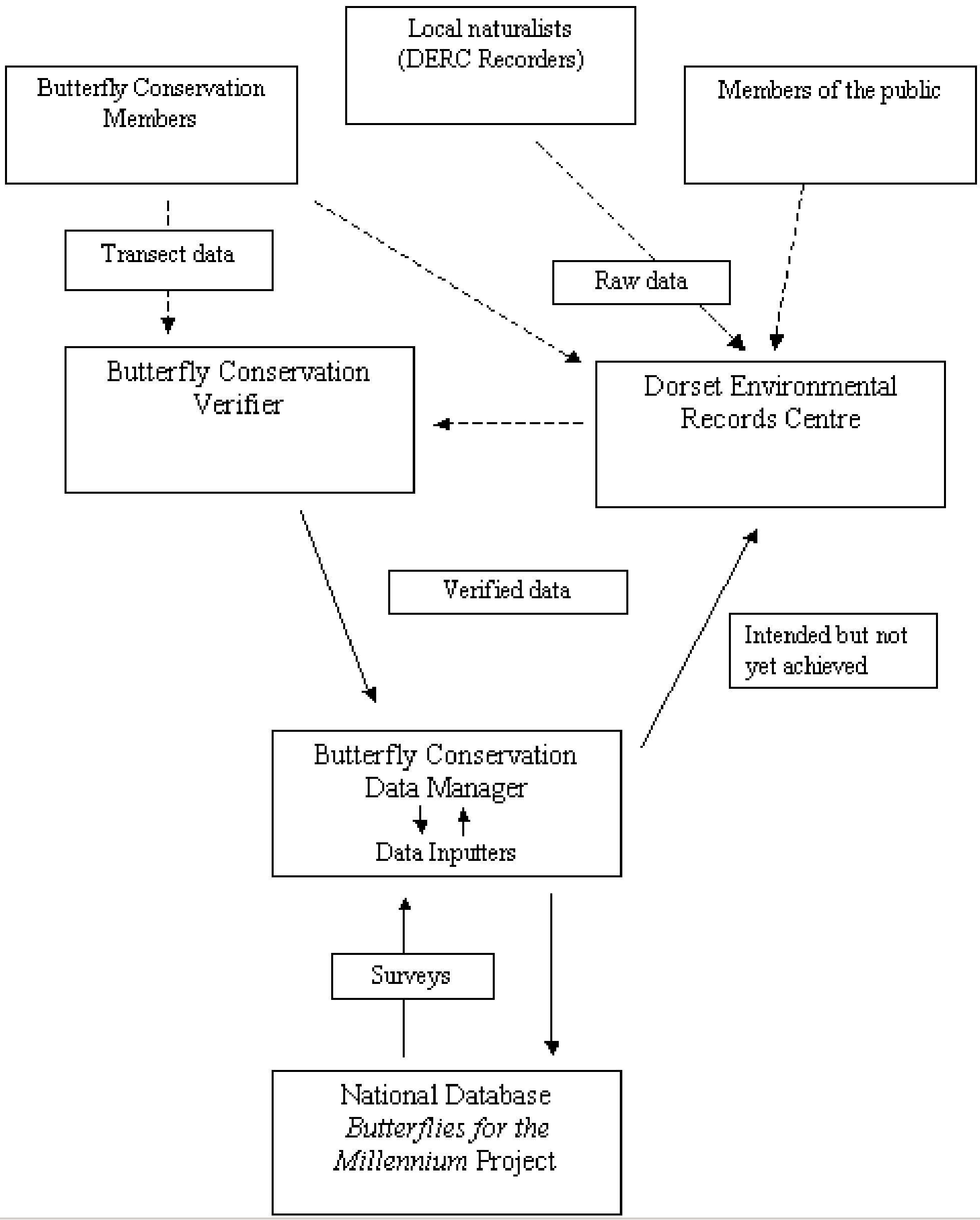
Data format and storage

DERC uses Recorder 3.3 and hopes to transfer to Recorder 2000 in due course. Both the Butterfly Conservation National Office and the Dorset branch use a specialist database called ‘Levana, and have no plans to change to Recorder 2000. However, software is now available for transferring data from Levana to Recorder 2000.

Model 1: existing practice

Because of the work already under way in the county, most data already followed a set route. Data had been verified and then inputted before being passed on to the national scheme. An annual check involved printing a set of distribution maps, cross-checking that important data (eg new colonies) had been included, and looking for any obvious discrepancies or mistakes made during data input. Most queries had been settled before data entry, but any that were still outstanding were checked against data sheets, or, if necessary, the original recorders were contacted.

Data flow between DERC and Butterfly Conservation
Model 1: existing practice



The experience of the past five years meant that many of the advantages and disadvantages of the existing model were already apparent. Plans were made to resolve the disadvantages.

Advantages

- The model was very easy for DERC to implement and used minimal resources.
- DERC would eventually get a good set of verified records.
- Butterfly Conservation had an active membership, which was able to provide the majority of the records.
- Butterfly Conservation provided the data inputters.
- Butterfly Conservation provided a respected verifier to check the data before inputting.
- A final check of processed data at the end of each year picked up any anomalies.
- Data could be easily transferred to the National Office in Levana format.
- The process gave the verifier an opportunity to keep abreast of the level of recording activity in the county (helping them to plan the BAPs)
- Butterfly Conservation benefited from the closer links with DERC (eg the opportunity to have access to a wider database).

Disadvantages and proposed solutions

- Development between Recorder and Levana was slower than anticipated, and DERC had not received any data from Butterfly Conservations National Office for several years. However, software to transfer data from Levana to Recorder and from Recorder to Levana is now available.

- Using volunteer data inputters requires time, training and dedication, and it can be difficult to impose standards and deadlines. Butterfly Conservation will take this forward with support from DERC when needed.
- DERC was not directly involved in data verification and processing. Thus there were some problems with the way some data had been entered, which surfaced during the transfer to Recorder. New guidelines to prevent such problems are to be drawn up in consultation with DERC's computer officer. Particular problems seemed to be that Levana is not a relational database (ie there is not an index to people or places previously used, as there is in Recorder), and the lack of a reference field, particularly important for data extracted from reports. Another new measure is the involvement of a representative of DERC in the annual data check. This representative will provide feedback to DERC on the quality of data, and advise DERC on how it can continue to assist in data verification and processing.
- The Butterfly Conservation verifier did not have the technology to assess digital data. To circumvent this problem, DERC will provide printed copies of all digital data.
- Butterfly Conservation had concerns over the long-term security of data. DERC has agreed to act as the data custodian and is committed to complying with NBN standards.
- All transect data were sent directly to the verifier. Once these data were verified, summary results were produced by hand and passed on for data input. Butterfly Conservation National Office is now developing a database specifically for transect data. This will produce summary information that can be passed on to the LRC.
- Butterfly Conservation National Office commissions survey work, some of it in Dorset. In the original model, the results of these surveys were passed on to the local branch of Butterfly Conservation for input on to the Levana database. DERC did also receive copies of reports, but did not know if data had been entered on to the database. In future, the results will be dealt with according to the agreed data flow model, and DERC will provide a list of reports which can be checked as part of the annual report check.

Model 2: ideal practice

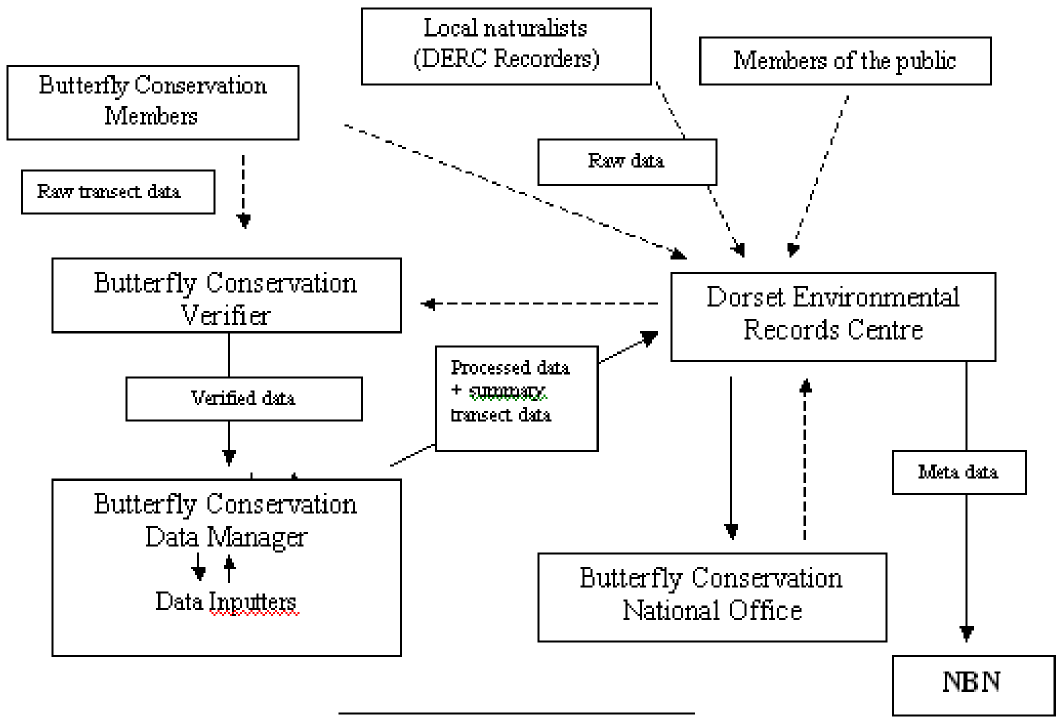
A second model, based on the existing one, was produced following discussions with Butterfly Conservation. This model sets out to retain the advantages and to address the disadvantages outlined above.

A timetable for data flow was agreed so that all data from a single recording season could be handled in one cycle. This encourages recorders to pass on data regularly and gives the data inputters, verifiers and managers a feeling of progress.

Written agreements

The original arrangements for data flow between Butterfly Conservation and DERC were made without any data transfer agreement or long-term commitments on either side. Although the new model for data flow has been agreed, as yet it has not been formalised in a written agreement.

Data flow between DERC and Butterfly Conservation
Model 2: ideal practice



Timetable

Deadline for records in to DERC	31st January
Deadline for data from DERC to verifier (including print-out of any digital data)	14th February
Deadline for verification	14th March
Deadline for inputting data	31st March
Deadline for data back to DERC	31st April
Deadline for data to national scheme	30th June

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Case study 2

Data flows 2

Somerset Environmental Records Centre and The Mammal Society

Background

Somerset Environmental Records Centre (SERC) was established in 1989 by Somerset Wildlife Trust with the support of Somerset County Council and all five local district councils. It operates as part of the trading subsidiary of Somerset Wildlife Trust; this has the disadvantage that the LRC is not an independent organisation, but because its management is overseen by a management group of key users, it is usually seen as independent. Principal users of the LRC include local authorities, statutory agencies, conservation organisations, naturalists, the public and land managers. The centre has four full-time members of staff: a director, a survey manager, an IT manager and a support officer. It also has its own in-house survey team comprising between eight and ten graduate trainees.

SERC has produced a model for the flow of mammal records in Somerset, working with local recording groups (The Somerset Mammal Group and specialist groups such as the Badger Group) and a national society (The Mammal Society). There is a wide range of groups collecting mammal data in Somerset, and not all of them have participated in the model. Work is still needed to encourage these groups to participate fully in data sharing.

Establishing a new model for data flow

Working with The Mammal Society

The Mammal Society is a national society that does not have local branches, but does have affiliated local specialist groups, such as badger groups. It has a general membership and co-ordinates survey effort, training and other activities.

Separate specialist groups exist in Somerset for otters, bats and badgers, with the newly formed Somerset Mammal Group (SMG) dealing with all other taxa. The SMG is affiliated to both SERC and The Mammal Society, and the mammal recorder for the SMG also works for The Mammal Society.

Apart from these SERC-affiliated mammal recording groups, Somerset data are also collected and held by a variety of academic institutions and commercial consultants, and by The Vincent Wildlife Trust.

Data format and storage

SERC is now the data custodian for mammal data in Somerset. It is responsible for ensuring that the data are managed according to the terms of the NBN. SERC holds the master copies of the data and is responsible for changing and supplying the data as appropriate.

Paper and electronic records from the Somerset Otter Group, Badger Group and Bat Group, data from other surveys and casual records from the general public are collected by SERC and passed to the SMG on an annual basis. Data entry, collation and verification are managed by SERC, although the Somerset Mammal Group recorder still plays a major role in this process.

At an initial meeting between SERC and the SMG recorder, a data flow model was established, and potential sources of mammal data in Somerset were identified. Initially, this was based on the premise that the SMG recorder would be established as a Recorder 2000 satellite of SERC. However, subsequent disappointment in Recorder 2000 led to complex discussions over the best database for the SMG recorder to use. The SMG recorder strongly favoured Biobase, as it was likely that one of her roles for The Mammal Society would be Biobase support officer. Biobase is the database used by the Mammal Society National Office, and is also the only accepted database for Mammal Society satellites, which are particularly important where no LRC exists.

SERC benefited in this instance from the local group s representative also being the Mammal Society recorder. It was decided that she should act on behalf of The Mammal Society nationally in negotiating how data should flow between local recorders, SERC and The Mammal Society. Draft agreements were then referred back to The Mammal Society.

SERC will use a networked version of MS Outlook to manage its record system. This software can track the progress of data exchange and prompt the LRC to issue reminders to local recorders, or to the national body, to send data. Using MS Outlook in this way is seen as a key tool in managing the complex flow of data. Without it, it is difficult for an LRC to keep track of where in the cycle of exchange each data-set has reached, and therefore to ensure the smooth flow of data. Managing data flows becomes more complex as LRCs agree data flow models with more recording groups.

The model

The Mammal Society National Office s computer database contains virtually no data, and there is currently no one in place at The Mammal Society to enter and manage data, although county recorders are active in most counties. Lengthy discussions between SERC and the SMG recorder focused on establishing The Mammal Societys data requirements at a national level.

The Mammal Societys requirements

The Mammal Society needs data to:

- produce a one-off distribution atlas which will form the basis of a dynamic inventory, monitoring mammal populations and distributions, probably in collaboration with the Bat Conservation Trust
- monitor mammal populations
- help it understand mammal ecology (eg habitat requirements)
- provide scientific input to UK BAP Species Action Plans
- provide national and regional overviews of mammals
- provide detailed sites data to recorders taking part in nationally organised recording schemes where re-survey of existing sites is required
- provide summary data as feedback to recorders for national recording schemes

The Mammal Society needs to obtain electronic data-sets where possible and to concentrate its own data entry on areas without a local mammal recorder who can input data.

SERC s concerns

SERC had a number of concerns regarding the supply of detailed data to the Mammal Society National Office.

Firstly, funding of sustainable LRCs could be undermined if a national society or recording scheme were to supply detailed data to national organisations for local use. The Mammal Society recognises that all taxonomic groups have to be taken into account in any decision-making process, and that only an LRC is able to provide a one-stop shop for data. The Mammal Society currently lacks a populated database, and has indicated that any database it does acquire will be intended for its own use, rather than for the purpose of generating income. SERC has requested that only summary data, usually at a resolution of ten kilometres, should be supplied to national organisations. Lack of a database manager at the Mammal Society National Office responsible for filtering data so as to be able supply them at an agreed geographical resolution has prevented final agreement on this. Where detailed data are supplied to bona fide researchers at a national level, they must not be given permission to publish detailed data-sets.

Secondly, SERC had concerns relating to landowner sensitivities. Ideally, site-based details should be supplied as required at a local level, allowing geographical resolution issues to be dealt with case by case.

Working arrangements

It was originally envisaged that data would be exchanged every six months with the local mammal recorder; however, it is now thought that once a year might be more realistic. When there is a more urgent need to exchange information (eg for verification of some water vole records), ad hoc data exchange can take place.

Biobase will be the database used by both the SMG recorder and the Mammal Society National Office, and SERC will be responsible for ensuring flow of data to the National Office and checking that any records received there in the course of the year are returned to Somerset.

Once the Mammal Society National Office has personnel in place to set up the database and manage, filter and supply data, SERC will supply data according to the timetable set up jointly with DERC. This is an ideal and approximate timetable, designed to collect data entered locally during the winter season and return updated data-sets to local recorders before the main survey season starts.

January SERC requests import data from local mammal recorder

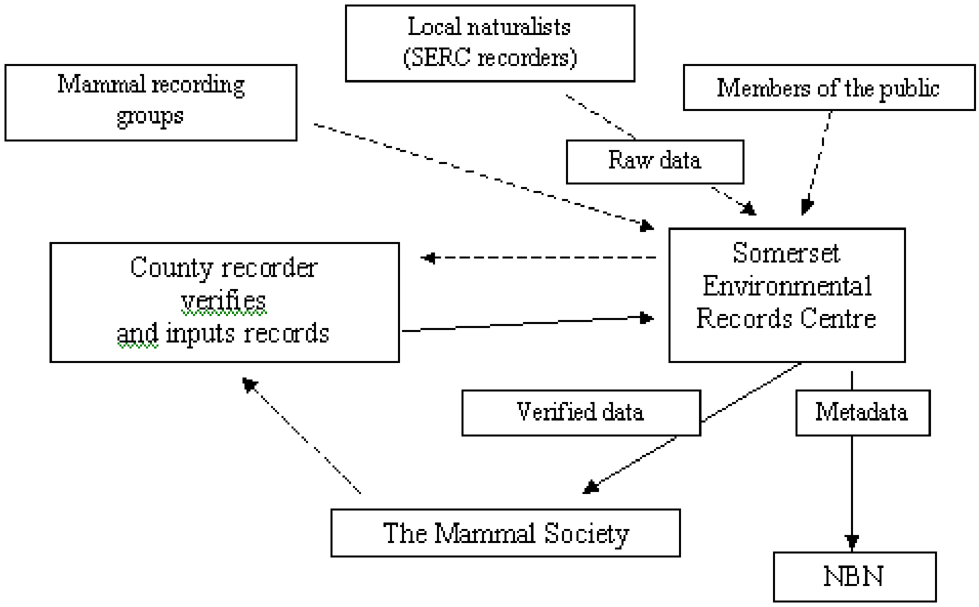
March Two-way exchange of data between SERC and Mammal Society National Office

April Full sets of data returned to the local mammal recorder, incorporating any new data entered by SERC and received from the Mammal Society National Office

Written agreements

Although a model for data flow has been successfully produced, to date there are no formal written agreements in place between the co-operating parties. Some groups (such as local academic institutions and The Vincent Wildlife Trust) are not currently participating in the model.

Data flow model:
SERC and The Mammal Society



Timetable

Deadline for records in to SERC	31st January
Deadline for data from SERC to verifier (including print-out of any digital data)	14th February
Deadline for verification and inputting	14th March
Deadline for data back to SERC	31st April
Deadline for data to national scheme	30th June

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13 Working with data-providing individuals

Policy & Principles

- Individual recorders are the most important source of species records for the majority of LRCs.
- It is an important function of an LRC to develop and maintain positive working relationships with data-providing individuals, by providing services, feedback and support.

13.1 Background

The management and supply of biological data is the core function of an LRC. Data on species, habitats and sites may come from a number of sources, both current and historical. Individual recorders are an important source of these data, particularly on species, and it is essential for an LRC to develop clear policies on identifying individual data providers, securing their continued cooperation, encouraging high recording standards and encouraging data holders to contribute their data. In order to achieve these aims, the LRC needs to develop and maintain positive relationships with a wide range of individuals, none of whom are under any obligation to supply data to the LRC. These relationships must be consistent and transparent, and should be based on an understanding by both recorders and the LRC of the mutual benefits to be derived from working together. Policies should describe mechanisms for offering clear advantages to individuals who provide data to the LRC.

13.2 Policy

The individual circumstances of LRCs differ, and it is appropriate for policy on relationships with data-providing individuals to be set at a local level. Nevertheless, there are a number of issues and options that must be considered by all LRCs in setting policy on this area of their operation.

In considering how to work with individuals, an LRC should set general policies on:

- identifying individuals with data of value to the LRC
- securing and ensuring the cooperation of data providers
- encouraging data holders who are reluctant to work with the LRC to contribute their data
- improving the quality of data supplied by individuals

It should be sufficient for an LRC to set out its policy stance on these and related issues in general policy statements, and to give the detail in related procedures.

13.3 Procedures

Procedures to implement individual policy objectives are considered below.

13.3.1 Identifying individuals with data of value to the LRC

Identifying individuals, both locally and across the UK, who collect or hold data of interest to the LRC is not straightforward. Much depends on the LRC developing links with local natural history societies, wildlife trusts and other recording and natural history groups, and on building good relations with individual recorders. Recorders who are active locally but who are not part of recording schemes or societies are likely to be few in number, and they are best identified through personal contacts. LRCs may wish to hold occasional open days or training events that might encourage unaffiliated recorders to engage with the LRC.

Taxonomic groups with substantial numbers of active recorders tend to have vice-county organisers who receive records collected within their area, and from whom LRCs may be able to access data collected by individual recorders who have been active in their area. For groups that are recorded by fewer individuals, LRCs must rely on their personal contacts to find out who has been recording locally. Developments in the NBN to increase the capacity of national recording schemes and societies will improve the flow of data to LRCs from individual recorders. National recording schemes and societies are often good sources of information on recorders and recording activities; the LRC should work to build good relations with any locally active recorders who work through these schemes. Working with national schemes and societies is considered more fully in volume 1, section 17 *Relationships with volunteer recorders and recording schemes*.

13.3.2 Securing the cooperation of data providers

Securing the continuing support and cooperation of existing data providers is at the heart of this policy area, and the LRC should establish procedures for providing direct support and other services, and for providing feedback in return for recorders' efforts.

The key means of developing positive relationships are through providing:

- services and facilities
- feedback and acknowledgements
- direct support

13.3.3 Services and facilities

Services to individual recorders will vary between LRCs, and will depend upon the individual LRC's priorities and resources. As a consequence of this variation, it is particularly important that LRCs make it clear to recorders exactly what services will be provided to them.

Services may include:

- providing information on training opportunities
- making facilities available for others to carry out training activities
- providing specialist equipment and facilities (eg meeting rooms, laboratories, survey equipment, checklists and record cards, access to computers, printers, photocopiers)
- providing professional services (eg data input, data verification, data management and archiving)
- producing products aimed primarily at individuals (eg newsletters and websites) or groups and organisations (eg atlases and reports)

13.3.4 Feedback and acknowledgements

Most recorders are happy to share their data and to see them being used. The most important service an LRC can offer recorders is to tell them how their data have been used, and what the consequences of those uses were. LRC publications should take care to acknowledge individual contributions. Individuals may be notified if their data are used in non-published formats, such as in responses to development proposals: if they are, they should also be told of any known outcomes of these uses. It is important that the LRC maintains its neutrality in matters like the use of data in the identification of statutory sites, and stresses in any feedback to data suppliers that others make these decisions, using information provided by the LRC. In most cases, the LRC will inform data providers through other means such as through providing feedback in newsletters, and at seminars. .

Acknowledgements can take a number of forms. The LRC may wish to send personal acknowledgements to certain individuals in recognition of significant data contributions (see also section 17 *Data ownership and acquisition*).

13.3.5 Direct support

An LRC can offer direct support to data providers by making staff time available for answering queries and for offering advice on a one-to-one basis. There are many areas of data collection that can benefit from advice and direction provided by an LRC. An LRC may wish to provide advice on particular recording techniques, or on current recording priorities in the area. This can provide motivation for individuals and offer an opportunity for LRC staff to promote networking among recorders for their mutual support and benefit.

13.3.6 Encouraging data holders to contribute their data

Encouraging the full cooperation of all data holders, some of whom may be reluctant to contribute data to the LRC, requires a long-term strategy and an approach tailored to individual concerns. The LRC must decide on a general procedure and then consider cases individually. It is necessary to prioritise individuals by the data they hold, and to recognise that the amount of effort put into persuasion must be matched by the value of the data accessed.

Reluctance to contribute data may derive from a misunderstanding of the LRC's role or policies. Misunderstandings relating to the role of the LRC in managing and disseminating data collected by others can be addressed through simple explanatory publications for general use. Misunderstandings relating to specific data management and supply policies can be addressed through offering one-to-one advice or written explanations of the LRC's position. In order to be able to do this, the LRC should make available its policies on data ownership (see section 17 *Data ownership and acquisition*), data access (section 30 *Controlling access to data*) and data security (section 20 *Physical security of data*).

Peer pressure can be a very useful means of encouraging recorders. It is often worthwhile to encourage data providers with whom the LRC has good relationships to persuade other recorders that the LRC applies its procedures effectively and can be trusted. Recorders with whom there are good relations should be supported in their attempts to explain the benefits of working with the LRC; a recorders' forum is a useful mechanism to raise and resolve any issues that are preventing individual recorders from contributing their data.

LRC staff have an important role in building and maintaining positive relations with individual recorders, and should aim to develop an understanding of the concerns of this critical group.

13.3.7 Improving the quality of individuals' data

Support, services and feedback to recorders should have a beneficial impact on the quality of their data. Improving the quality of data is primarily of interest to the LRC, but if handled sensitively it should also encourage recorders to work with the LRC. LRC involvement in improving recording skills in species identification is covered in section 7 (*Species identification—increasing recording skills*) and guidance on setting *Minimum record standards* is covered in section 10.

The LRC should have a programme to ensure that information on recording standards is available to recorders in a consistent and easily digestible way—this might be through training courses, newsletters or one-to-one advice.

13.4 Process of developing the policy and procedure

It is essential that all LRCs build and maintain positive relationships with individual recorders. However, the relative significance of this group of data providers, their needs, and the potential of the LRC to provide them with support and services, will vary between LRCs.

Policy should be set by management at the local level, in consultation with recorder representatives, and should take into account the views of LRC staff. Setting policy on feedback and acknowledgements should be straightforward. Staff time allocated to providing direct support to individual recorders should be agreed. Providing services and facilities has resource implications that must be made explicit when discussing priorities. There are also practical issues, such as access to facilities outside working hours. Core users of the LRC should be represented on the management group, and individual recorders should also be consulted, to ensure that LRC services and support are meeting recorders' requirements and that recorders' expectations are not unrealistic.

Case study

Relationships with data-providing individuals

Lothian Wildlife Information Centre

Background

Lothian Wildlife Information Centre (LWIC) maintains a species database for the Lothian area of central Scotland (comprising four local authority areas). All Wildlife Site information is managed by LWIC, which also supports the Edinburgh LBAP through managing the information requirements for monitoring actions and outcomes. The LRC provides data to consultants, Scottish Natural Heritage, the local authorities and others on an ad hoc basis, although discussions are under way on establishing Service Level Agreements (SLAs). One full-time manager, who is employed by the Scottish Wildlife Trust, runs the Centre, which is located in premises in Edinburgh city centre.

Policy and procedures

Traditionally, LWIC has encouraged the involvement of volunteers in its day-to-day activities, and has undertaken regular public surveys. A newsletter is published every six months for the general public; in it, the LRC promotes its ethos of encouraging new volunteers and recorders. LWIC maintains excellent relationships with many individual recorders and species experts, and the manager participates directly in a number of recording activities, including organising recording events on particular sites for which data are being sought. With one member of staff and few resources, the LRC is not easily able to provide a wide range of facilities and services such as training. Nevertheless, it provides an example of how positive relations with individual data providers can be developed by employing staff who understand the needs and concerns of this critical group.

LWICs policies on relations with data-providing individuals are grouped under two main policy headings:

- getting access to data
- positive relations with data providers

The development of positive and cooperative relationships with individual recorders is implemented through 'liaison procedures covering both regular and one-off communications, and through procedures covering 'services and feedback. The latter procedures include providing recorders with copies of products derived from their data, giving advice on LWICs recording priorities, giving advice on training opportunities, and providing feedback on data use. These services and feedback provisions are central to maintaining positive relations with data providers, although LRCs may wish to set these out in more detailed procedures covering all the issues highlighted in the guidance. These could cover LRC involvement in training, supply or loan of LRC equipment, use of LRC facilities, direct support for volunteers from staff, and other LRC services, such as data inputting, data verification, data management and data archiving.

A separate policy and associated procedures have been set on acknowledging data owners, both on receipt of their submitted records and when their data are used in publications. It is important that LRCs evaluate the cost-effectiveness of such procedures, as they can be time-consuming.

Procedures set out under the policy heading 'getting access to data are concerned with identifying and keeping a record of individuals who have recorded in the LRCs area, addressing those who are reluctant to share their data, and encouraging new recorders. Recruiting new recorders is an area that requires considerable effort and extensive liaison with others, and other LRCs may wish to consider this separately.

A copy of LWICs policy and procedures on 'Relations with data providers (individuals) follows.

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Lothian Wildlife Information Centre Policy on Relations with Data Providers

(Individuals)

Policies

1 Policy Statement

The LRC will actively encourage data providers at all levels through the provision of support, services and feedback.

2 Background to Policy

2.1 *The essential role of data providers* For LWIC to function, data providers, whether individuals or organisations, must allow access to past, present and future records.

2.2 *Identifying relevant local and national data providers* All people will be identified and a permanent record kept of people, either residents or visitors, who have been recording in the area, whatever their recording level.

2.3 *Recruiting new recorders* The recorder base will also be expanded by encouraging new people to gather data, through public surveys and appeals.

2.4 *Encouraging reluctant data holders* Some people may be reluctant to allow access to their records. To overcome this the LRC will emphasise the value of pooling data and explain how it deals with the usual concerns i.e. data ownership, confidentiality, data security, acknowledgements and charging issues.

2.5 *The need to maintain positive and ongoing relationships* All data providers must be considered important and worthy of 'respect'. LWIC will cultivate long term relationships with all of them and invest considerable effort in their 'customer care'. The resulting 'loyalty' will produce 'ambassadors' and will also assist in achieving ongoing prioritised recording.

2.6 *Providing a service and feedback* LWIC will offer data providers a range of services and feedback e.g. maps, access to identification service. Even though most data providers do not require 'carrots' to give access to their data, they appreciate the offer.

2.7 *Acknowledging contributions* The importance of their role to the LRC should be made clear. Most data providers appreciate being acknowledged in publications and reports that use their data and some will certainly be dissatisfied if they are not.

2.8 *The role of specialists* Data providers form a spectrum from novice non-specialists to experienced specialists. Specialists play a particularly important role since they are often the only people providing records for certain taxonomic groups and are also needed for verifying records.

2.9 *Developing access to organisations through individuals* Specialists are often part of a wider recording network (e.g. recording schemes and societies). They can therefore form an excellent link between the LRC and these specialist organisations leading to the identification of, for example, more records, more recording help or more awareness of the LRC.

2.10 *Commitment to encouraging recorders' technical development* The greater the skill of the recorder base the more efficiently the LRC can function (and the greater the satisfaction of the recorders). Consequently existing data providers will be encouraged to extend their ID skills and improve their recording standards. LWIC does not need to provide training directly but will provide relevant training information.

2.11 Apportioning time spent on individual data providers An LRC can work out the percentage of records that come from individuals, as opposed to organisations, to decide how much effort should go into taking care of recorders

Specific policies

2.12 ***Getting Access to Data*** LWIC aims to get access to data from all providers (both specialist and non-specialist) whether they are residents or visitors.

2.13 ***Positive relations with data providers*** LWIC will cultivate long-term relationships with recorders and invest effort into their 'customer care'. This will include informing all data providers of the services and feedback that can be made available to them and ensuring that they are acknowledged in publications and reports.

Lothian Wildlife Information Centre Policy on Relations with Data Providers

(Individuals)

Procedures

Getting Access to Data

1 Background to the procedure

The procedure implements the following policy:

LWIC aims to get access to data from all providers (both specialist and non-specialist) whether they are residents or visitors.

2 The Procedure

2.1 *Contacting data providers* LWIC needs to become aware of individuals who are, or have been, gathering data in the local area. This can be achieved in a number of ways:

- Specialists are often in contact with each other - contact one and you will often learn of several others.
- People responding to public surveys conducted by the LRC will include a number of non-specialists who have previously been keeping nature diaries.
- Put in requests for records in newsletters of local and national natural history societies and environmental organisations.

2.2 *Recruiting new recorders* The best ways of achieving this is by organising public wildlife surveys and making other specific requests for sightings (keep a look-out for…). Also encourage organisers of training events, guided walks etc. to promote the need for species recording.

2.3 *Problems of access* Some recorders are reluctant to allow access to their data. This may be for a number of reasons. The most usual are:

- Don't feel an LRC should make money from and get credit for their work.
- Feared loss of ownership of data.
- Need assurance of confidentiality of certain data.

To overcome this reluctance the LRC should make it clear what are the advantages in pooling data and explain how the LRC deals with the usual concerns of data ownership, confidentiality, data security, acknowledgements and charging issues.

Other reasons for refusal are:

- Records are not stored in a legible form.
- The data does not consist of species records as such and is not in a form that can be copied (e.g. when the ecology or biology of a species is being worked on).

These are more difficult to get around. In the latter case the data will often only become obtainable once the findings have been written up in a journal.

2.4 Keeping a record of data providers Although names and addresses of providers are stored on Recorder 2000 (or other record-storing database) LWIC maintains another database to facilitate other uses i.e. particular interests, who receives newsletters, who has attended LRC demos, numbers of records or survey forms submitted. This allows a more personalised service to be provided.

Developing positive relations with data providers

1 Background to the procedure

The procedure implements the following policy:

LWIC will cultivate long-term relationships with recorders and invest effort into their 'customer care'. This will include informing all data providers of the services and feedback that can be made available to them and ensuring that they are acknowledged in publications and reports.

2 The Procedure

2.1 *Liaison with data providers* All data providers should be made to feel they are 'part' of LWIC and will receive the following:

- A letter of thanks or a telephone call every time they send in records.
- Information about services available to them
- Newsletters, survey reports
- Invites to open days, training events, recording days, site visits etc.

2.2 *Services and feedback* All data providers will be informed of the services and feedback that is available to them. These consist of:

- The data that they have provided can be returned to them in a processed form e.g. distribution maps or numbers of squares where species have been recorded.
- Provide them with data from other workers.
- Advise on sites/habitats that would be worth undertaking fieldwork.
- Inform them of other workers in their field, training events and suitable literature.
- Inform of uses made of their data if requested.

2.3 *Acknowledgements* People providing data will receive a 'thank you' letter that includes a paragraph stating that the data provider will be acknowledged by name in any publication or report that uses their data. Acknowledgement in reports is most simply achieved by including the recorder's name when listing records.

Acknowledgement in publications should reflect the numbers of records that have been used (e.g. Particular thanks go to…)

When a publication is largely based on a single recorder's work then they will be consulted to confirm that this is acceptable and will clearly need to be heavily acknowledged.

2.4 *Data supply agreement* If a data provider requires additional confirmation that their records will be acknowledged then a data supply agreement will be drawn up.

14 Working with data-providing organisations

Policy & Principles

- **The LRC should develop and manage good working relationships with groups of data providers, such as naturalist societies and recording groups.**
- The LRC should apply clear and consistent policies on data ownership, data access, data confidentiality, data security, copyright and charging to all agreements with data-providing groups and organisations.
- The LRC should provide direct support, other services and feedback to all groups that contribute data.

14.1 Background

The management and supply of biological data is a core function of an LRC. Data on species, habitats and sites may come from a number of sources, both current and historical. Local groups of data providers are important sources of these data, particularly on species, and it is essential for an LRC to develop clear policies on securing and maintaining the co-operation of data-providing groups and on encouraging high recording standards. The LRC should aim to secure the support and cooperation of existing data providers. To achieve this, it must develop and maintain positive relationships with a wide range of groups, none of whom are under any obligation to supply data to the LRC. These relationships must be consistent and transparent, and should be based on an understanding by both the group and the LRC of the mutual benefits to be derived from working together. Policies should describe a mechanism for offering clear advantages to groups that provide data to the LRC.

14.2 Policy

This section concentrates on relationships with local clubs, groups and societies whose members collect biological data. Such groups include local natural history societies, and groups with limited taxonomic interests, such as bird, bat and badger groups. It also considers relationships with other local data holding organisations that make data widely available; these may include some country parks and nature reserves.

Working with the general public as data providers is dealt with under *Public information gathering* (section 15) and developing working relationships with national schemes and societies is considered in volume 1, section 17 *Relationships with volunteer recorders and recording schemes*. Guidance on establishing systems to manage the flow of data between recorders, recording schemes and societies (local and national) and LRCs is provided in section 12 *Data flows.* Relationships with universities and other research bodies are likely to depend on local circumstances and should be guided and informed by this section.

The principles underlying relationships between LRCs and recording groups have many similarities with those underlying their relationships with individual recorders (see section 13 *Working with data-providing individuals*).

Although the level and type of activities undertaken by data-providing groups vary considerably across the UK, all LRCs should set policy on how relationships with these groups will be conducted. It should be sufficient for most LRCs to set a number of general policies covering such relationships, and to reserve detail for procedural mechanisms designed to implement the policies.

There are a number of issues and options that should be considered by all LRCs in setting policy on this area of their operations. In considering how to work with data-providing groups, the LRC should set policy on:

- cultivating and securing the cooperation of recording groups and other local data sources
- identifying new groups which hold data of value to the LRC
- establishing and agreeing arrangements for managing data flow between providers and the LRC
- entering into data supply agreements with data providers
- evaluating the cost-effectiveness of all activities designed to support relationships with data-providing groups
- ensuring that data are managed by the LRC according to clear policies and procedures, and that data providers understand and agree with these policies and procedures
- improving the quality of data provided by groups

It is important that policies are applied consistently by the LRC in managing its relationships with various groups, and that the policies themselves are made available to all those involved.

In general, LRCs should:

- encourage groups to lodge their data with the LRC to be managed and disseminated on their behalf, and to work closely with the LRC to promote high standards of recording
- develop and manage good working relationships with groups of data providers
- provide direct support, other services and feedback to all organisations contributing data
- apply clear and consistent policies on data ownership, data access, data confidentiality, data security, copyright and charging in all work with data providers
- encourage recorders to make their skills and knowledge available to others

14.3 Managing relationships with data-providing groups

14.3.1 Services and facilities

Services to local recording groups will vary between LRCs, and will depend upon the individual LRC's priorities and resources and on the nature of each group. The focus of the LRC's role should be on making data available to all data users. Most locally based recording groups do not have the time, skills or facilities to manage their own data and make them available to users. The principal service that an LRC can provide is to act as the data custodian for these groups, thereby taking responsibility for the professional management of data according to agreed standards.

Local recording groups may have satisfactory procedures in place to verify their own data, but others may not. As the data custodian, an LRC should work with local groups to establish verification procedures as part of the process of managing the flow of data.

All LRCs should aim to improve the quality of the data they receive. When working with local groups, LRCs should aim to influence recording activities to fill gaps in data and improve data accuracy and precision. Influencing local recording groups and cultivating positive relations with them can be furthered by providing a number of other services and facilities. It is important that LRCs consider the resource requirements of activities and evaluate their cost-effectiveness.

14.3.2 Services may include:

- providing maps showing sites and areas of potential interest or geographical gaps in current data holdings
- providing training (eg in species identification, survey techniques, database management)
- providing equipment and facilities (eg meeting rooms, survey equipment, checklists and record cards, access to computers, printers, photocopiers)
- products (eg newsletters, atlases, reports, space on website)

14.3.3 Feedback and acknowledgements

It is important that there are clear agreements on acknowledging data owners when their data are used. Providing feedback to local groups and acknowledging individual data owners (or the group, depending upon the agreement) is an important aspect of building positive relations.

14.3.4 Direct support

An LRC can offer direct support to data providers by making staff time available for answering queries and for offering advice on a one-to-one basis. Not only can this be very motivating for individuals, but it also offers an opportunity for LRC staff to promote networking amongst recorders for their mutual support and benefit, and to encourage mentoring by more experienced recorders.

14.4 Developing data supply agreements with groups

All providers of data to an LRC should agree to a written data supply agreement that sets out the obligations of both the parties. The agreement should cover how the data will be managed, to whom and with what conditions they may be released and how the quality of the data will be controlled through verification procedures.

The capacity of local groups to verify, manage and make available their data varies, and data supply agreements should be tailored to individual circumstances. A key component of these circumstances is the nature of the local group. Some groups are properly constituted, and office bearers have the right to negotiate on behalf of members; others are not. The LRC must be careful to ensure that individuals do not negotiate on behalf of recorders without their permission. In some cases, LRCs will have to negotiate data supply agreements with individual recorders while also working with the group as a whole to provide it with services, facilities and support. In cases where it is agreed that the LRC will act as data custodian, the responsibilities of a data custodian should be set out in the data supply agreement.

When the local group elects to retain custodianship of its members' data, the data supply agreement should set out how data flows will be managed, especially in relation to corrections, additions, alterations or deletions to data-sets.

14.5 Process of developing the policy and procedures

Policy and procedures on working with local data-providing organisations are best set at the local level, and who participates in the process will depend upon local circumstances. It is important that representatives of recording groups are members of relevant LRC policy-setting bodies, particularly when agreeing policy on terms of access to data.

It is important that core users are consulted on how the LRC works with recording groups. Some activities may require additional resources, and it is core users who must make decisions on how the LRC should service data providers' needs.

Case study

Working with data-providing organisations

Leicestershire Museums, Arts and Records Service

Background

The Environmental Resources Centre in Leicestershire is an LRC that is managed by a local authority museum service—Leicestershire Museums, Arts and Records Service (LMARS). Its two full-time members of staff are permanent employees of Leicestershire County Council and it receives additional income from:

- Service Level Agreements (SLAs) with district and neighbouring unitary planning authorities
- administrative fees from commercial users
- a Heritage Lottery Fund (HLF) grant
- contracts to carry out a variety of professional works

The LRC has overriding policy objectives to:

- fulfil obligations in the Leicester, Leicestershire & Rutland Biodiversity Action Plan (LBAP)
- enhance involvement of local communities in the monitoring and conservation of landscapes and their constituent wildlife, through parish volunteer networks
- improve access to environmental data (where information is to be communicated in a style and format accessible to the needs of general as well as specific audiences)
- maintain partnerships with the Leicestershire & Rutland Wildlife Trust and other partners, and establish new networks to assist in updating records and databases

The LRC is closely linked to the LBAP and the Wildlife Site system. It has developed considerable expertise in involving local communities in survey exercises, especially at parish level, in working with amateur recording groups and in providing advisory services to planning authorities.

Discussion

LMARS was founded in 1835 and has provided an important resource to amateur naturalists since then through its collections and publications. Amateur naturalists working on the Leicestershire faunal survey initiated the original Leicestershire Biological Records Centre in the 1950s. The LRC continues to support a number of recorder groups through the provision of meeting facilities and other services.

LMARS views recording groups as significant sources of data and as a more efficient focus for support than working directly with individual recorders. Support of individual recorders was found to be time-consuming, and relationships have generally worked best when focused on a defined taxonomic group as part of a recording scheme.

A number of data supply agreements with local recorder groups were drawn up in the 1960s and 1970s. Most of them became lost in files and, with the turnover of LMARS staff and club membership, they were gradually forgotten or converted into oral traditions of custom and practice. Following the recent increase in demand for records from planning authorities, nature conservation bodies and environmental consultancies, several problems have arisen from these arrangements. Many of them were found to give too much control over the use of data to the original contributors, which meant that the LRC frequently had either to ask for permission to divulge information, or to refer enquirers to busy amateur naturalists whose time would have been better spent collecting more records.

LMARS recently decided that negotiations on a new round of data supply agreements should be initiated, and that the new agreements should identify the responsibilities of LMARS and the local recording groups and allow third parties access to records for defined purposes.

Negotiations with the Leicestershire and Rutland Ornithological Society (LROS) led the way. A presentation to this group by LMARSs manager was warmly received and the groups committee was sent a draft data supply agreement.

Discussions continued between the LRC and LROS, during which a number of concerns were addressed. These included making acknowledgement of LROS in any publications by the LRC that included their records and ensuring the physical security of the original records. These concerns were addressed in a revised agreement that was finally signed in 1999.

The division of responsibilities is illustrated in the table below:

LMARS	LROS
Store original data securely. Provide access to data according to the agreed uses and restrictions on sensitive records.	Verify records. Computerise records. Review schedules of species qualifying for restricted access on grounds of sensitivity.

LMARS has found that the success of agreements with volunteer groups depends on the groups trust and confidence in the LRC to perform its tasks efficiently. Following negotiations with LROS, the LRC entered into discussions with the Leicestershire Bat Group, who were concerned that, in the past, they had been denied access to their own records and also that a commitment by LMARS to computerise records had not been fulfilled.

In working with the Leicestershire Badger Group LMARS has found access to the groups records by commercial consultants to be a contentious issue. Badger Group members are not concerned about receiving payment themselves, nor does the group object to LMARS charging administrative fees to users; however, its members dislike firms making financial gain from their records.

In contrast to groups that concentrate on one taxonomic group, the Loughborough Naturalists Club and the Rutland Natural History Society carry out a wide range of site and species recording. In order to maintain consistent record quality from these groups, it will be necessary to have in place standard verification procedures that have been agreed with other specialist local groups.

In drawing up new agreements that allow access to data for well-defined purposes, LMARS has worked hard to promote the message that records must be accessible in order to inform decision-making on the natural environment. Its work will build on the success of working with Leicestershire and Rutland Ornithological Society, and the LRC expects to formalise agreements with many local recording groups in the near future.

Policy

LMARS sets out a single top level policy statement on providing support, services and feedback to data-providing groups that reflects its strong commitment to involving and supporting local communities.

There are three sub-policies, covering LRC services to groups, evaluation of the cost-effectiveness of working with particular groups, and working outside formal agreements.

Formal agreements are central to the implementation of LMARS's policies on working with data providers, although exceptions are recognised in which *ad hoc* arrangements can be made.

Procedures

LMARS has described procedures governing its relationships with:

- recording groups
- satellite record centres (these are local professional bodies who collect and use records for their own purposes.)
- evaluation of the cost-effectiveness of supporting recording groups
- provision of services outside data supply agreements (referred to here as data exchange agreements)

Recording groups

Agreements are central to the procedures governing working arrangements with recording groups. LMARS agrees to protect others data, to manage them, to make them accessible to their owners and archive them. Giving data owners and contributors access to their own data is seen as crucial to building and maintaining their support. Archiving records is a service of demonstrable value to recording groups.

LMARS acknowledges data sources in its publications. Some LRCs may need further elaboration on when to acknowledge the group and when to acknowledge individual recorders and on how to acknowledge data providers in publications in which data have been sourced from a large number of contributors. These decisions should be set out in the data supply agreements.

Data flow can be improved and accelerated if local groups carry out data entry, and LMARS evaluates the cost-effectiveness of providing software to enable this.

Cost-effectiveness

LMARS has a simple procedure in place to monitor the supply of records from each local group and the demand from users for these data. This information is used to evaluate the cost-effectiveness of supporting individual groups and as a basis for annual discussions with group representatives at which LMARS seeks to influence the groups recording to meet the needs of data users.

Further procedures may be needed by LRCs to target their services to promote recording to higher standards by the members of local groups.

Working outside data supply agreements

LMARS recognises the need to set procedures for working with recorder groups outside formal agreements and provides a list of factors to consider.

As mentioned above, LMARS uses data supply agreements as the key mechanism for formalising its relationships with data-providing groups. There is no specific policy on managing relationships with data providers outside such agreements, although an outline procedure is provided. The factors for assessing whether to engage with a data provider outside a data supply agreement are listed. These factors refer to the costs and benefits of handling these data, and indicate the need for LMARS to consider possible conflicts with other LRC policies.

Any disagreements between LRCs and local groups on data access policies need to be resolved, perhaps through involving the groups representatives more closely in LRC decision-making and by explaining LRC policy and its rationale.

A copy of LMARSs policy and procedures on ‘Relations with data providers—organisations follows.

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Policy on Working with Data Providers—Organisations

1 Policy Statement

LMARS will actively encourage data providing groups and organisations through the provision of support, services and feedback, and seek to influence their recording activities to meet the needs of data users.

2 Background to Policy

2.1 The rationale for this policy is provided by the following strategic objectives:

- To maintain an inflow of usable data.
- To ensure that data is reasonably accessible to users.
- To maximise efficiency in acquiring data.
- To encourage recorders to extend their skills and conform to standards.

2.2 Organisations which provide data are divided into two classes:

- Recorder groups (constituted clubs, societies and recording schemes comprised mainly of amateur naturalists).
- Satellite record centres (professional bodies that generate data mainly for their own purposes)

These different categories are covered by the same policies but require separate procedures.

Sub-policy on provision of support

2.3 LMARS will provide services to data providers (eg data services, provision of access to third parties, archiving records, supply of record cards, training programmes, feedback etc.) in exchange for the right to use records according to a written data supply agreement.

2.4 LMARS will periodically review the cost effectiveness of providing support to each data provider taking into account the volume and quality of records received.

2.5 Facilities will be provided to other organisations to provide records outside data supply agreements on condition that the LRC is able to use the records received according to its policies and procedures.

Sub-policy on influencing the activities of data providers

2.6 The LRC will inform organisations of current needs for data and desired recording standards and seek to influence their data collection accordingly.

Procedures

Procedures governing the provision of services and feedback within data exchange agreements

1 Background to procedures

These procedures implement the following policy:

LMARS will provide services to groups (eg data services, provision of access to third parties, archiving records, supply of record cards, training programmes, feedback etc.) in exchange for the right to use records according to a written data supply agreement.

2 Procedure for Recorder Groups

2.1 Include within data exchange agreements with recorder groups a commitment to the following services and feedback:

- Provision of access by the group to its own records.
- Provision of access to the group's records by third parties for environmental protection and scientific research.
- Physical security of records and archives.
- Maintenance of confidentiality of sensitive records according to agreed schedules.
- Acknowledgement of the group in publications and responses to enquiries.

2.2 No commitment should be made to process records (eg. by keying them into an electronic database) beyond what is necessary for the LRC to achieve the targets set in its forward plans.

2.3 Further services may be offered to recorder groups as the need arises:

- Publication of atlases, survey reports etc.
- Provision of facilities for meetings.
- Special training and advice on recording.
- Signposting to funding opportunities and sources of information etc.

- Provision of software and dictionaries to aid computer data entry.

Each of these services may be appropriate to specific types of organisations.

3 Procedure for Satellite Record Centres

3.1 In addition to the services described in procedure 2.1, data exchange agreements with satellite record centres need to include agreements on a compatible approach to the following issues concerning third parties:

- Access terms
- Charges
- Restrictions on use of sensitive records

3.2 Agreements need to include a schedule of data categories to be held by each organisation and a timetable for transferral. The review period for these schedules should be one or two years.

3.3 Both parties need to adopt a common approach to policies and procedures in line with NBN standards. This applies especially to the following areas:

- Definition of sites
- Habitat classification
- Verification
- Minimum record standards
- Ownership of data
- Documentation standards
- Data security
- Data quality

Procedures governing the evaluation of the cost-effectiveness of supporting recorder groups

4 Background to procedures

These procedures implement the following policies:

LMARS will periodically review the cost effectiveness of providing support to individual groups taking into account the volume and quality of records received.

The LRC will inform organisations of current needs for data and desired recording standards and seek to influence their data collection accordingly

5 The procedures

5.1 The source of all records acquired through data exchange agreements will be summarised in an annual report.

5.2 Job logging systems will classify enquiries to the database by taxonomic group and demand for information on different taxonomic groups will be summarised in an annual report.

5.3 These two figures will be used respectively as indicators of the volume and current demand of records received from different recorder groups.

5.4 Data requirements from recorder groups will be reviewed and discussed with the groups annually.

Procedures governing the provision of services outside data exchange agreements

6 Background to procedures

This procedure implements the following policy:.

Facilities will be provided to other organisations to provide records outside data supply agreements on condition that the LRC is able to use the records received according to its policies and procedures

7 The procedure

7.1 Support to organisations in terms of storage and dissemination of records may be provided outside of data exchange agreements on an *ad hoc* basis, but this will depend on the following factors:

- The costs of storing the records and making them accessible.
- Their usefulness for current projects and answering enquiries.
- Their scientific value, uniqueness and replaceability.
- Conditions which conflict with LRC policies.

15 Public information gathering

Policy & Principles

- **The public is certainly capable of collecting data on wildlife of value to LRC users, although it is not realistic to expect the public to collect data that are geographically comprehensive or that form part of a monitoring programme.**
- Running public surveys requires significant resources that LRCs must weigh against the benefits gained.
- Running public surveys is only one way for LRCs to involve the public in their activities.

15.1 Background

In the UK, biological records have traditionally been collected by a mixture of professional and volunteer recorders. Records contributed by volunteer recorders make up a large portion of the data managed by LRCs. Many LRCs have a long history of involvement with skilled amateur recorders and with the general public, and many continue to support and encourage the participation of the public in the collection of data on wildlife.

This section covers how LRCs may set policy and procedures on engaging the public in activities to collect data on wildlife. Section 13 *Working with data-providing individuals* covers how LRCs may work with amateur recorders who are already engaged in collecting data on wildlife. As the primary purpose of an LRC is to manage and supply high quality data on sites, species and habitats, this section considers only those activities involving the general public that will assist in this. It does not cover other activities designed to involve the public in the work of LRCs or their key partners.

The general public is undoubtedly capable of collecting much valuable data for LRCs. Many species and features of interest to LRC users, such as hedgerows, ancient trees or herb-rich road verges, are easy to identify, requiring no specialist equipment or skills. Some species identified in LBAPs fall into this category, and even when species may be confused with others (eg water voles and mink), records of possible occurrences can help to direct further recording effort. However, public surveys are unsuitable for collecting geographically comprehensive data or data whose collection requires standardised sampling techniques, and few individuals are ever recruited during public surveys who go on to collect data regularly and under their own initiative.

15.2 Policy and procedures

Questions faced by all LRCs that are considering involving the public in data collection include:

- can the public gather data of sufficient quality?
- how can this untapped resource be accessed?
- is involvement in public information gathering cost-effective?
- can public information gathering be used to meet other LRC objectives, such as recruiting volunteers, raising awareness of biodiversity or community participation?

Enabling the public to record wildlife in a useful way can be costly in terms of staff time and resources, as considerable costs can be incurred in publicity, producing recording sheets and data processing. The effectiveness and benefits of public surveys must be weighed against the costs incurred. Promoting recording activities to a general public with no declared interest in wildlife might often not be worthwhile, unless the promotion costs are very low, although it is often quite easy to obtain sponsorship for such activities. Targeting sections of the community through mailings to particular individuals or through sending material to schools and libraries is likely to be more effective in accessing interested people, even though it may prove more costly per item.

Policies on public information gathering will vary between LRCs and some LRCs may wish not to engage in any public survey activities. Some LRCs may decide to support and encourage other organisations in their own public outreach activities in order to improve the quality and quantity of data gathered or to increase awareness and understanding of the LRC. Procedures will depend on individual LRCs' policy positions.

The design of public surveys plays a crucial role in determining the quality of the results. Surveys that are too difficult for their target community group tend to be under-subscribed and are more likely to produce inaccurate data.

No matter what policy position is adopted, it is important that all LRCs do set their position on this topic and differentiate their involvement in public information collection from other services provided to the public. See also section 35 on *Information services for the public* and sections 13 and 14 on *Working with data-providing individuals and organisations*.

15.3 Process of developing the policy and procedures

Policy decisions on engaging in public information gathering should be made at a strategic level, with input from staff (particularly on resource implications and data quality issues). It is important that the main purpose of an LRC, as a provider of high quality information to decision makers, is borne in mind by the management when considering activities that involve the public; input from LRC users, perhaps through a forum, may help to maintain this focus.

Case study 1

Public information gathering

Leicestershire Museums, Arts and Records Service

Background

The Environmental Resources Centre in Leicestershire is an LRC that is managed by a local authority museum service—Leicestershire Museums, Arts and Records Service (LMARS). It is core-funded by Leicestershire County Council, and receives additional income from:

- Service Level Agreements with district and neighbouring unitary planning authorities
- administrative fees from commercial users
- a Heritage Lottery Fund (HLF) grant
- contracts to carry out a variety of professional works

LMARS public outreach programme

The LRC has a policy objective to:

> enhance involvement of local communities in the monitoring and conservation of landscapes and their constituent wildlife, through parish volunteer networks

The LRC is closely linked to the LBAP and the Wildlife Sites scheme. It has developed considerable expertise in public outreach, especially at parish level, working with amateur recording groups and providing advisory services to planning authorities.

Volunteer recorders have long been the mainstay of species recording in Leicestershire and Rutland. In November 1994, the Leicestershire Countryside and Wildlife Initiative (LCWI) was set up as a three-year project, with partnership funding from the Countryside Commission and English Nature, to involve a much wider range of people in recording their environment. For the first time, a concerted and sustained effort was made to engage people who previously had not regarded themselves as naturalists. Twenty-three parish survey groups were set up by the LCWI, followed by a series of surveys targeted at particular habitats or taxonomic groups. The LCWI also worked with more than a hundred Women's Institute groups for a land use survey in 1996. The Initiative was so successful that it was integrated into the core service of LMARS.

LMARS has gained considerably from its involvement in public information gathering, particularly in terms of the profile of the LRC and of wildlife recording in general. The higher public profile achieved as a result of engaging in public surveys has increased the level of support for LMARS from various sectors, including private companies, funding bodies and the media. But this is not the only purpose of public surveys; they are intended to gather wildlife information, and it is important to participants that their records are actually incorporated into the LRCs database.

Discussion

LMARS has a policy commitment to forge closer links with local communities and to promote public environmental awareness. Most LRCs are likely to have a far less explicit requirement to involve the public in data collection.

LMARS community education role is further elaborated in a section on the background to the policy. Community education is not normally a role of an LRC, unless sponsored by a core user; but designing surveys to take the division between this work and public information gathering into account is likely to involve significant logistical difficulties. LRCs may wish to run a single survey with a range of opportunities for public involvement over a number of years, with different opportunities offered to cater for different skill levels.

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Public outreach

1 Policy Statement

The LRC will recruit the public and community groups including Parish Councils to collect information on biodiversity.

2 Background to policy

2.1 These policies and procedural guidelines relate to the data gathering component of public surveys carried out by LMARS as part of its public outreach programme.

2.2 The rationale for public involvement in collecting species and habitat information that can be used for protecting and enhancing local biodiversity is based on the following strategic objectives:

- To promote awareness and a greater understanding of their surroundings to the public. This can be delivered through training and support of surveyors.
- To forge closer links with local communities, thus providing a base of support for environmental recording projects.
- To have a network of reliable, dedicated recorders who are directly (through team-building, skills enhancement, community involvement, practical conservation tasks) or indirectly (through protection of biodiversity from records received) enhancing the local environment.
- To generate a greater understanding of the work of LRCs, through publicity and liaison with the public.

When is the public an appropriate source of data?

2.3 'First-time' and inexperienced recorders should be used for less sensitive/difficult sites and also for species recording where a reasonable standard of recording is achievable e.g. veteran trees.

2.4 Experienced members of the pubic can potentially be utilised at all times. Public recorders can be experts without being professionals.

2.5 Suitable care will be taken to ensure that legislation and LRC policies on good practice are not broken, e.g. where protected species are concerned.

How to identify areas of work where the public can be used

2.6 Each survey will be matched to the levels of competence amongst surveyors.

2.7 Surveys aimed at the general public must be of a widespread habitat/species in order to avoid the situation where volunteers get completely negative results.

What data should be accepted?

2.8 All data from members of the public will be accepted, subject to it conforming to policies on minimum data standards, unless it is known that the records are false or methods used to obtain data are illegal.

How to encourage contributions from the public

2.9 LMARS maintains a programme of targeted surveys suitable for public involvement.

2.10 LMARS ensures that the public are aware of the rationale for their involvement, emphasising the important role they can play in protecting their environment.

2.11 LMARS maintains a high public profile with new recording initiatives launched with an associated publicity campaign to gain a wide distribution.

2.12 LMARS makes recording easy for the public by the use of simple forms, and provision of assistance and training when needed.

2.13 LMARS will not overload individual groups with too many surveys.

3. Procedures

Design and operation of public surveys

3.1 It is necessary to take the following steps in order to successfully complete a standard public survey:

- Select a habitat or taxonomic group, which is suitable for public survey and for which there is a need for information and, where necessary, identify potential sources of external funding.
- Establish clear aims and objectives for the survey before any design takes place.
- Define and prioritise data needs.
- Evaluate each data need with regard to suitability for public survey and assess what can be achieved.
- Design survey techniques appropriate for gathering the required data.
- Design additional survey techniques, which would enhance the public appeal of the survey without compromising the aims of the survey.
- Identify suitable community groups to target for carrying out the survey.
- Identify training needs, required support in the form of information packs etc, means of promoting the survey, resources required for processing and publishing results and any other costs.
- Draw up timetable to take advantage of optimal season for fieldwork and to co-ordinate with other surveys.
- Secure external funding where necessary.
- Design and produce support packs and survey forms.
- Initiate publicity campaign and recruit surveyors.
- Launch survey.
- Provide training and backup as required.
- Receive and process data.
- Continue publicity.
- Analyse data and provide feedback/publish findings.
- Evaluate project.

Evaluating the suitability of habitats and species for public surveys

3.2 To ensure that inexperienced surveyors are not given surveys above their level of competence and to make full use of expert amateur surveyors, the following steps are necessary:

Assess the habitats/species for the ease of survey, taking into account frequency, distribution, ease of identification, level of information required, likely interest from public etc.

Identify data needs and the survey techniques required to collect data.

Assess expertise required for survey in terms of suitability for:

- members of the public as first-time inexperienced recorders
- established non-specialist recording groups
- local natural history groups
- individual local experts that have links to the LRC.

Select the most appropriate community group for the survey and target them in the publicity campaign.

Design survey forms, support packs and training programmes to suit that community group.

Design of survey forms

3.3 Ensure that forms are not too complicated for the surveyors involved. This will help to ensure good survey returns.

- Limit the questionnaire sections to 3 sides of A4.
- Do not include questions that you would like answered but are unachievable by the majority of people.
- When designing a form ensure the layout is clear and the questions concise. Questions should be closed rather than open. Use an easy to read font at a good type size. Answers can be standardised using tick boxes.

- Include on the form a brief resume on how and why the survey is to be done. A rationale for involvement should motivate people into action.
- Once a draft survey form is completed, circulate it around the LRC for comments. The more people from different backgrounds that look at it, the better.
- Once revisions from the first draft have been incorporated, test the forms in the field. This would preferably take place with some of the public surveyors that the survey is aimed at rather than a group of professionals who all know what to look for.

Publicity

3.4 Timetable a press launch and associated campaign with regular press releases to maintain a high public profile. Areas covered should include:

- Interest in the survey
- First results received
- Milestone results received (e.g. 100,000)
- Rare species discovered
- Human interest/exceptional recorders
- Training days

Identifying training needs and organising training days

3.5 The approach to designing training programmes needs to be flexible to take account of the needs and opinions of the public taking part. Prescriptive procedures cannot be formulated for training programmes. Thus treat these as guidelines rather than a procedure.

- Link training sessions to survey launches.
- Vary days and times of training, i.e. weekends and evenings to suit differing circumstances among surveyors.
- Use several different venues if possible.
- Provide directions and clear signposting at the venue.
- Combine lectures with site visits to make training diverse and interesting. A typical training day may involve two indoor presentations to explain the need for the survey and provide background information followed by a session in the field where surveyors try out techniques and interactively standardise methods with the trainer.
- Use survey forms as part of the training day.
- Provide refreshments.
- Keep the session as informal as possible. The fun element should always be emphasised.
- It may be necessary to repeat events due to public demand.

Conforming to good practice and legislation

3.6 Provide instructions to recorders on how to conform to legal and good practice requirements through the training programme, support packs and survey forms.

- Identify any areas where legal problems may occur e.g. trespass, contact with scheduled species, wild plants etc. (list them all)
- Compile a file with all current legislation relating to the above areas.
- Identify any other issues arising from the LRC policies on good recording practices.
- Produce a code of practice for each survey.

Health and safety

3.7 Take all reasonable steps to reduce the risk of accident or injury to a minimum.

- Write a risk assessment for all activities associated with the survey and identify actions that can be taken to reduce risks.
- Provide instructions to recorders accordingly through the training programme, support packs and survey forms.

Feedback

3.8 Ensure that recorders in active schemes receive yearly reports of progress through press releases and articles in Branchline (the newsletter distributed to all community groups involved in recording)

Running a co-ordinated programme

3.9 Ensure that there will be a co-ordinated programme of surveys and training. Intensive support is needed for the public in the first 6 months following the launch. However, the number of surveys, that can be run concurrently, is limited, not only by the resources available to the LRC, but also by the capacity of the public to carry them out.

- Do not run more than two surveys intensively at a time. Older surveys can continue to run as long as surveyors do not feel that they are over-stretched
- Do not launch more than one project per season, unless a specific group of recorders require the LRC to do so.
- Timetable surveys and associated publicity to coincide with seasonal events e.g. flowering of unimproved grassland in a grassland survey.

Evaluation of surveys

3.10 Several surveys have been evaluated, but no standard methodology has yet been developed. It is normally necessary to evaluate several different aspects of the survey including:

- public interest (which could be measured by number of respondents or number of completed forms),
- raising of public awareness (which could be measured by number of enquiries related to the survey),
- quality of data (accuracy / precision / comprehensiveness / relevance of data to user needs).

Case study of a successful public survey

The Ancient Tree Survey launched in 1997 was successful both in generating public interest and in generating useful data Unusually, this survey was not supported by a large information pack. However, the publicity and extensive training programme attracted a lot of interest especially from experienced recorders and activists such as tree wardens. Over 600 returns have so far been received and the survey is still active. The returns have come from 43% of the parishes in the area of search, although it is not known how comprehensively each parish has been surveyed.

The survey has been highly successful in attracting public interest and in raising awareness of the conservation issues. The data-set is highly relevant to user needs. The survey is an action listed in the local BAP and ancient trees can be selected as Wildlife Sites. Data from the survey are now being used to identify new Wildlife Sites. Previously these data did not exist because they were not collected during professional phase 1 surveys.

Ancient trees are an ideal subject for producing precise and accurate results. No specialist expertise is required of the recorder and the training programme can address issues such as standardising methods of measuring tree girths. However, it is probably a common feature of all public surveys that it is difficult to generate precise locality data. The calculation of six figure grid references is beyond most people's experience and even capabilities. They are also too imprecise for many data uses. The use of base maps was the most successful method of generating precise locality data, although this method would be costly for a very large scale public survey. It is also necessary to ensure that this practice is covered by the LRC's Ordnance Survey licence. We are currently re-contacting some surveyors to ask them to annotate base maps retrospectively.

Comprehensiveness of the data set is the main data quality criterion on which the data set scores low. As with all public surveys, effort is unevenly and non-randomly distributed geographically.

Originally, three forms were produced and aimed at different levels of recorder. An A5 sheet was produced for ordinary members of the public and linked to a competition to find the oldest tree in Leicestershire and Rutland. A blue form was produced for casually noting down basic details of several trees while on a walk. A green form was produced for collecting full records as part of a comprehensive parish-wide survey. After three years, we now only use the green form, although the competition was crucial in raising the public profile of the survey when it first started.

Feedback indicates that the green form would benefit by being simplified. There are several questions which furnish data of little relevance and which would not detract from the interest of the survey and should be deleted. They were included in an attempt to be compatible with national tree surveys rather than to meet local needs.

Case study 2

Local Patch and I-Spy 100 public surveys

Lothian Wildlife Information Centre

Background

Lothian Wildlife Information Centre (LWIC) maintains a species database for the Lothian area of central Scotland (comprising four local authority areas). All Wildlife Site information is managed by LWIC, which also supports the Edinburgh LBAP through managing the information requirements for monitoring actions and outcomes. The LRC provides data to consultants, Scottish Natural Heritage, the local authorities and others on an ad hoc basis, although discussions are under way on establishing Service Level Agreements (SLAs). One full-time manager, who is employed by the Scottish Wildlife Trust, runs the Centre, which is located in premises in Edinburgh city centre.

Traditionally, the LRC has encouraged the involvement of volunteers in its day-to-day activities, and has undertaken regular public surveys. A newsletter is produced biannually for the general public; in it, the LRC promotes its ethos of encouraging new volunteers and recorders.

LWIC has recently launched a biodiversity project involving public information gathering. This project consists of the Lothian Local Patch Project and the Lothian I-Spy 100 survey.

Target audiences

The target audience for both these surveys is the general public. The I-Spy 100 survey is more likely than the Local Patch Project to appeal to people who have some knowledge and interest in natural history, and is also targeted at ranger services, naturalist groups and field surveyors.

Purpose of surveys and uses of data

The biodiversity project allows the general public to be involved with work on the four LBAPs within LWIC s area of coverage, through helping to plot the distribution of LBAP species.

The Local Patch Project is aimed at gathering data from the public on areas with which people are familiar through regular visits, and is aimed at individuals who perhaps do not travel far and wide. The survey aims to fill geographical gaps in data holdings, and particularly to generate records for publicly accessible areas. It is intended that the distribution of some common species will be more clearly defined as a result of the data collected. LWIC is requesting that historical observations also be submitted, to help develop a picture of environmental change. It is also hoped that the survey will help to identify sites that are worth studying in more detail. This information is required by Edinburgh Council for local planning and by the Scottish Wildlife Trust for work on identifying Wildlife Sites.

The I-Spy 100 survey is aimed at gathering data on a suite of a hundred target species from various taxa, and is targeted at those members of the public with an interest in wildlife and the means to travel around the area. This survey has the secondary purpose of providing a handy list for recorders who may be unsure which species are worth recording.

All four LBAPs in the Lothian area have a number of actions aimed at collecting more data on the distribution of listed species, and this surveys primary aim is to provide information to support these actions. The survey aims to locate a selection of 100 of the 300 species listed in the LBAPs, in order to build a better picture of their distribution. The 100 species were selected by LWIC on the basis that they are relatively easily identified by the general public but taxing enough to stimulate them to extend their identification skills. Another key aim is to identify sites for further survey. A number of species that are targeted by the LBAP are not easy to record systematically (eg water vole and otter); asking the public to record these species should help to increase the amount of data held on them.

Materials and promotion

The Local Patch Project survey pack consists of an explanatory information leaflet (two printed sides on A4 card) giving background information to the Local Patch Project, the LRC and the LBAPs. This is accompanied by a separate recording form (two printed sides on A4 card) that lists common species beside tick boxes, and provides a simple key to code the frequency with which individual species are observed. Species are listed under the following headings: birds, butterflies and moths, mammals, other animals, flowers and ferns, invasive plants, and trees and shrubs (those identified in the LBAPs are highlighted). On the reverse are tick boxes for recording descriptions of any features, management regimes, land use and habitats contained within the patch.

The I-Spy 100 survey pack consists of an information sheet and a recording sheet in a waterproof plastic A5 cover. The information sheet lists the targeted species; they are organised by taxonomic group on one side and by habitat on the reverse (two printed sides on A4 card). There is a separate recording form (two printed sides on A4 card) with a blank grid in which to enter records. The grid has the following headings:

Species	Where seen	Grid ref	Date	Habitat	No	Comments

For both surveys, 50 survey packs each were distributed to all 70 local public libraries; individual packs were sent to all Scottish Wildlife Trust local branch members (3,000 in number), and are sent out to anyone who contacts LWIC and expresses an interest.

Both surveys have been featured in the LRC newsletter; this has a circulation of 7,000 and is distributed both to individuals and through public libraries. The local newspaper has featured the surveys, and word of mouth and other informal communications have increased their uptake.

Resources

Commercial sponsorship was obtained by the Scottish Wildlife Trust on behalf of the LRC for producing 10,000 survey packs for each survey. Volunteers input data as records are received.

Species records are entered onto the Recorder 3.3 database, and a separate database has been established for storing incidental data collected during Local Patch surveys.

LWIC answers enquiries from survey participants and provides feedback through the newsletter, but there are no specific activities aimed at encouraging participation in the surveys or improving the quality of data collected. It is intended that both surveys will run indefinitely.

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