Version 2.2

LERC Accreditation Guidance Handbook

The LERC Accreditation System report

(WGB Environment / ALERC / Natural England)
August 2010

Contains Criteria, Thresholds / Interpretation and Evidence sections for each of the twenty criteria at the standard level

LRC Accreditation Guidance Handbook

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LERC Accreditation Final Report.pdf

This guidance expands on the interpretation of the criteria, provides guidance on how LERCs can achieve the criteria and includes examples of good practice from LERCs and other sources around the UK. The guidance includes material drafted for the purpose and links to existing resources, some of which go beyond or differ in some aspects from the accreditation requirements. These differences are highlighted in the text wherever possible, but, in cases of doubt, the text in the above report should be taken as definitive. In a few cases use of the leading tools (see below) may lead an LERC to fall short of compliance in spite of best efforts, through some software technical deficiency. Assessors should be sympathetic in these cases; in due course it is hoped that the tool developers can make the necessary amendments.

All of the criteria are mandatory i.e. the standard must be achieved at the time of application for accreditation.

Standards

According to the British Standards Institute, a standard is "an agreed, repeatable way of doing something. It is a published document that contains a technical specification or other precise criteria designed to be used consistently as a rule, guideline, or definition. Standards help to make life simpler and to increase the reliability and the effectiveness of many goods and services we use. Standards are created by bringing together the experience and expertise of all interested parties such as the producers, sellers, buyers, users and regulators of a particular material, product, process or service. Standards are designed for voluntary use and do not impose any regulations. However, laws and regulations may refer to certain standards and make compliance with them compulsory."

For purposes of LERC Accreditation the published documents include both the criteria and these guidelines. The criteria are designed to be used consistently; some are rules (e.g. the NBN Species Dictionary will be used, criterion 17.1 Species Nomenclature), others refer to definitions (e.g. use of defined BAP Priority Habitats, criterion 18.1 BAP Habitat Reporting), all have guidelines. They have been created by bringing together the experience and expertise of producers (the LERCs), users (consultees in the original development process, including the NBN Trust) and regulators (e.g. Defra and the statutory agencies). They are voluntary and do not impose regulations. Laws and regulations do refer to some of the standards and make compliance with them compulsory (e.g. the Inspire Metadata regulations, criterion 12. Datasets Custodianship).

ALERC has decided that the emphasis should be on standards, as expressed through outputs, rather than standardisation. This recognises the variability of local circumstances across the UK and the strength of there being many routes to achieve a desired endpoint. Innovation is widely recognised as a healthy characteristic, and complete standardisation of method as well as standard output could stifle innovation. However it is also recognised that a greater degree of convergence on outputs is desirable in the medium to long term. This can be achieved in some cases through the advanced criteria, which include more quantitative criteria, but some standards need agreement across the whole biodiversity information community in the UK, of which LERCs form a part.

As the emphasis is on output rather than method, no tools are made mandatory in the LERC Accreditation system. Some tools (e.g. Recorder 6, IHS, the NBN Data Cleaner, COFNOD web metadata) are referred to frequently in the guidance because they are in widespread use in LERCs or are likely to become so, but there are other ways of achieving compliance with the criteria. Some tools are in active development, and future editions of this guidance should capture their progress and relevance to the criteria.

Publication and Update

This draft created by Bill Butcher and Guidance and Training Group, December 2010 - February 2011.

1 Stakeholder Led

It is rare for the governance of an LERC to be a legal partnership (see analysis in LERC Review, 2006). More commonly, the LERC's legal status is one of the widespread incorporated options in UK law (Limited Company by Guarantee, Industrial and Provident Society (now Community Benefit Society) or Community Interest Company), either in the form of the LERC itself or the LERC being a part of a larger organisation. Many LERCs are part of a Local Authority. Whatever the legal status, this criterion and the following criterion concern the influence of a wide group of stakeholders on the LERC's strategy and operation.

The relationship between the LERC's governing body and the stakeholder group/ steering group/ stakeholders' forum is a complex area that needs careful handling. See Developing a Local Records Centre, 2001, for full discussion. Developing an LERC word.zip

LERC Managers should seek to achieve clarity in the documentation and terms of reference of both the governing body and the stakeholder group/ steering group/ stakeholders' forum, and also ensure that the theory is followed in practice and documented as being followed.

Evidence

Constitution or equivalent document in an LERC hosted by another organisation. Terms of reference of any separate Steering Group/ Advisory Group. Minutes of meetings demonstrating stakeholder influence.

If an LERC is a part of a larger partnership, e.g. a Local Biodiversity Partnership, then the constitution or partnership agreement of that larger partnership will be sufficient evidence, provided that the LERC is a key part of the partnership and its remit is explicitly covered within the document. The meeting minutes demonstrating partnership influence should be from the preceding 12 months.

2. Stakeholder Group Composition

This should be read alongside guidance for criterion 1 Stakeholder Led.

It is quite common for individuals to wear several hats when sitting on governing bodies/ steering groups. Individuals may also take a different role than their normal professional role e.g. when a full-time ecologist sits on a steering group without representing their employer organisation. These ambiguities are best clarified and documented, as they can cause difficulties and misunderstandings. The precise position of representatives of the voluntary recording community, their mode of election or appointment to the position and the mechanisms they use to collate views and feed information back can be especially challenging.

A pragmatic approach is normally advisable in these situations, as completely robust structures can prove to be bureaucratic and onerous. Pragmatism is less advisable, however, if the stakeholder group is also the governing body with legal responsibility.

No models of stakeholder group composition are provided here, as the forms of legal entity and local circumstances vary widely, and there is no clear relationship between certain models and LERC effectiveness. Provided the letter of the criterion and its interpretation are followed, much flexibility is permitted.

Evidence

Constitution or equivalent document in an LERC hosted by another organisation. Terms of reference of any separate Steering Group/ Advisory Group. Evidence that steering group is meeting and providing direction, e.g. minutes of meetings.

The evidence required here is likely to be identical to that provided under criterion 1 Stakeholder Led.

3. Impartiality

No guidance on this criterion is currently considered to be necessary.

Evidence

Constitution or equivalent document in an LERC hosted by another organisation. Data Access Policy. Data Capture/Management Policy.

The Data Access Policy should state the levels of access to data to your partners, host and external organisations and individuals, and any prioritisation in dealing with data requests. The Data Capture/Management Policy should cover any prioritisation in capturing and managing data.

4. Environmental Information Regulations

Guidance to EIR is in the attached Defra document.

Most LERCs will fall within the scope of a "public body" for the purposes of the Regulations. If the LERC's governing body has not yet considered this issue then it should do so, and state whether, in its opinion, the LERC is a public body, and the reasons for that opinion.

The implications of being a public body in relation to the regulations are probably not that great, as normal good practice for other reasons will fulfil the obligations anyway. However, response times and confidentiality and data charging provisions need careful consideration, as does the management of relationships with data providers in the context of obligations on the LERC for data disclosure.

NBN Trust Guidance on applying EIR in the context of wildlife records can be found here.

This is an example of an EIR policy, supplied by TVERC. EIR Policy ERC.doc

Evidence

Data Access Policy. Data Capture/Management Policy. Management Reports.

The Data Access Policy and Data Capture/Management Policy should explain how the LERC conforms to the Environmental Information Regulations. Management Reports should include some evidence that it actually does so.

5. Legal status

Additional interpretation of the criterion:

Some LERCs that are hosted by larger organisations may be in a position where they are able to enter contracts with external bodies, in the form of Service Level Agreements or other contract types, but only with the case-by-case consent of the hosting organisation. This may be the normal situation in LERCs hosted by local authorities. While this situation is undesirable, in that it risks occasional blocks by the host organisation of contracts that are in the best interests of the LERC, it will not result in failure against this criterion.

Discussion of the comparative merits of various legal entity options for LERCs was given in Developing a Local Records Centre, 2001. Developing an LERC word.zip

A quick guide to the main options for legal entity, including the newly created form of Community Interest Company, is given here. ALERC is an example of a Community Interest Company.

LERC documentation (e.g. website, notepaper, quotations, invoices) should make it clear the name of the legal entity that the LERC operates under.

Evidence

Constitution or equivalent document in an LERC hosted by another organisation.

Ideally the document should be explicit in naming the legal entity that the LERC operates under. While this is likely to be already the case, exceptions should not be interpreted as a barrier to accreditation, provided that the LERC commits to amending the document at the earliest opportunity (e.g. by resolution at the next AGM).

6. Accountable and Transparent

Here is an example of an LERC Annual Report that shows strong accountability and transparency. Bear in mind that many of the activities described in the HBIC Annual Report are characteristic of an Advanced LERC.

HBIC Annual Report 2008/9

Features of this report that would be appropriate for an LERC annual report operating at the standard accreditation level:

Staffing details

Stakeholder group / partnership details

1. Data Holdings

2. Data entry & validation

3. Data Requests

6. Evaluating Sites of Importance for Nature Conservation

9. Financial Summary

10. Annual Recorders Forum

Additional features that would be desirable to meet all 20 criteria:

Details of engagement with users (e.g. consultation to get feedback on service provided) and national data providers (e.g. National Schemes and Societies) - criterion 8. User and Provider Engagement.

Evidence

LERC Annual Report/ Management Reports.

This means that both the latest annual and management reports (at least one of each) should be provided as evidence. The analysis above in relation to the HBIC report example interprets the required content of an annual report to meet this and other criteria. The management report need not contain references to all of the elements included in the annual report, but should update the relevant partners on delivery of key aspects, such as data requests.

7. No Overlap

This is the solution arrived at by LERCs in SE England. It illustrates different arrangements for LERC users and LERC providers, achieving transparency for users and convenience for providers.

It is intended that ALERC will hold a definitive map showing the boundaries of all LERCs in the UK including commentary on any known/agreed overlaps, this is currently (Jan
2011) in development.

SELERCs Defining Our Boundaries Final 010705 Map.pdf

Evidence

LERC Boundary Map, including the extent of marine coverage for coastal LERCs. Details of any disputed areas.

In cases where there is an acknowledged dispute or ambiguity (i.e. identified by the applicant, the third party or ALERC) over any part of the LERC area, as declared on the boundary map, the LERC must present either:

1. A letter from the other party, stating that the previous dispute or ambiguity has been resolved and that the LERC applicant should be the recognised LERC for that area OR

2. (a) The reasons why the LERC applicant believes it should be the recognised LERC for that area.

(b) A description of the claim made by the other party

(c) The written opinions of any local authority, statutory conservation agency and national park authority operating in the disputed area.

Note to ALERC assessors. If an application describes an unresolved dispute (i.e. case 2 above), then ALERC will need to seek the views of the other party before coming to a decision. This will normally result in a deferred application to allow time for this to be resolved.

8. User and Provider Engagement

This is a model data exchange agreement that could be used between an LERC and a National Scheme/Society or a local Natural History Society. It is an NBN model.

This is a model Service Level Agreement between an LERC and a Local Authority. TVERC LA SLA Annual to be agreed before any data drop.doc

Consultation with users on the format and detail of products and services delivered is often best handled at regional level. This can achieve efficiency savings (the consultation can take place with a larger group of consultees at a single event/process) and the outcome can contribute to LERC branding and seamless delivery across LERC boundaries if adopted by all LERCs in the region. This model has been enacted recently through Regional LERC Advocacy Officers e.g. in East of England region. Engagement with consultants as a user group might usefully outline the relevant contents of this guidance as an illustration of what consultants can expect from an LERC. In turn the requests of consultants might include:

- Ask the right questions of data providers
- Access all relevant existing data before deciding on new survey
- Assess the quality of existing data
- Clearly separate raw data from interpretation in reports
- Lodge all raw data and monitoring data collected with data custodians
- Respect confidentiality agreements

Data Flow

Consultation with local and national data providers will often be on the subject of data flow (see also criterion 13. Data Exchange Principles). The goal should be to achieve an efficient system of data flow between providers, LERCs and other agents, and information users that is agreed by all parties. The NBN Trust is working on negotiation of agreed data flows, which are likely to be different for each major taxonomic group. Improving Data Flow Leaflet - leaflet v1 2.doc

The leaflet contains four Data Flow Principles (not to be confused with the NBN Data Exchange Principles (see criterion 13. Data Exchange Principles). These should be followed in engaging with users and providers.

The diagram below (as used in the LERC Accreditation Report) is intended to illustrate the type of data flow arrangements that may emerge by consultation between interested parties over the next few years. It is neither final for bat data, or necessarily representative of arrangements that may be agreed for other taxa.

This area of work is one of the most challenging in the whole range of LERC operation. Barriers to successful outcomes include differences in preference between local and national representatives of taxa recording, potential conflicts between preferred solutions

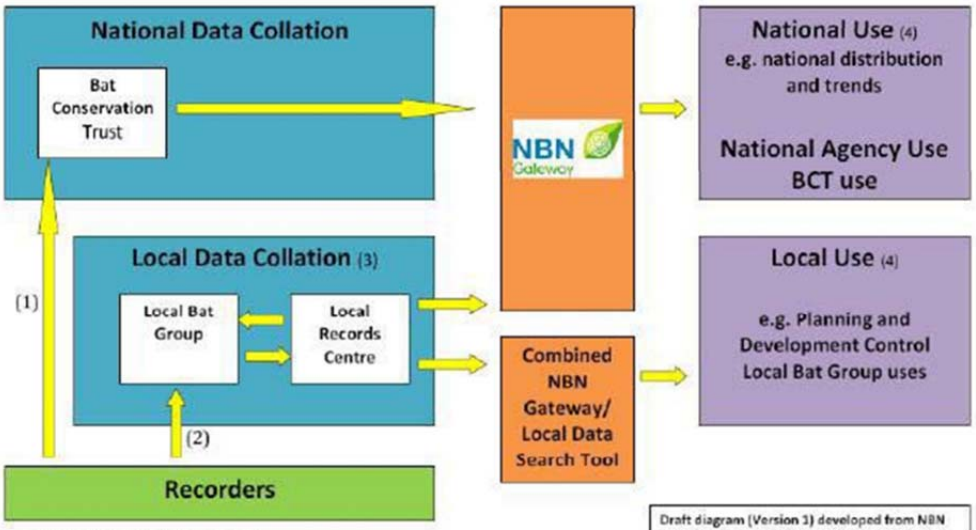
and LERC business models and/or local group preferred modus operandi, changes in personnel and technology, and the need to continue to deliver data to users in advance of final agreement across the range of taxa. Furthermore, individual LERCs are not in a position to unilaterally agree national data flow models. Nevertheless the challenge is worth taking on, as even small improvements could significantly improve the overall image of biodiversity data management as well as enhance positive working relationships.

The requirement of this criterion in this area of work is not to achieve successful outcomes across the board but to engage positively with the debate and to document outcomes.

Annex 1 An Example of a Preferred Data Flow for a Taxonomic Group

Note that this diagram is intended to illustrate the type of data flow arrangements that may emerge by consultation between interested parties over the next few years. It is neither final for bat data, or necessarily representative of arrangements that may be agreed for other taxa. Data flow is referred to in interpretation of standard criterion 13 and is also relevant to standard criteria 8 and 12.

Bat Data – Preferred Data Flow DRAFT



(1) NBMP data (2) Non NBMP data
(3) Local arrangements will vary and should be agreed locally, but should include data capture and validation, normally at the LRC, data verification of at least Annex 2 species by the Bat Group, data mobilisation to the Gateway by the LRC and support to the Bat Group by the LRC, for example in IT, links to habitat data and analysis.
(4) Spatial resolution available to different users controlled through Gateway tools

Draft diagram (Version 1) developed from NBN Trust Data Flow model type 1 from discussions between Bill Butcher (WGB Environment) and Lisa Hundt (Bat Conservation Trust) as part of Natural England/ALERC LRC Accreditation Project consultation, April 2010

One of the key advantages of agreed data flows is the avoidance of duplication - both duplication of effort and the visibility of duplicate records to users. LERCs should explain in the documentation of data flow how they are working with other groups to avoid duplication.

Evidence

LERC Annual Report/ Management Reports.

An annual report or management report within the last 18 months should (1) list the agreements already in place between the LERC and national schemes and societies, local natural history societies, county recorders and user organisations (2)the efforts made by the LERC to fill the gaps and (3) consultation undertaken with users on the services provided by the LERC.

9. Staff Complement

The Association for Local Government Ecologists (ALGE) report "Increasing Momentum- a Vision Statement for Biodiversity in Local Authorities 2004-2010" (2004) contained the following statement:

"It is suggested that the average LERC requires 3 full time staff and associated infrastructure to enable the LERC to deliver effective services to local authorities."

The NBN Trust's Position Statement on Local Records Centres, 2005, contained the following statement:

"The staffing complement will vary across the UK according to the demands placed on the LERC's services. The maintenance of these minimum functions will nowhere be possible with a full-time staff equivalent of less than two and in some areas may require five to ten staff."

While there is no prescriptive minimum number of staff defined in these accreditation criteria, it is mandatory for there to be a review of the adequacy of the LERC's staff complement to:

1. Meet the accreditation standards across all twenty criteria.

2. Deliver products and services to the standard demanded by users.

This review should be undertaken by the internal LERC Accreditation Team, and signed off by that team in the LERC's accreditation application.

Evidence

Staff complement review by the LERC Accreditation Team. Job description of manager or equivalent and filled post.

The staff complement review by the LERC Accreditation Team should address the two points described above. The team should be unanimous.

Where strategic and operational responsibility for the LERC is split between two posts, and the post with strategic responsibility has less than three days per week dedicated to LERC business, the LERC Accreditation Team needs to make the case that this arrangement delivers the required standards.

10. Process Orientated Organisation

A Process Orientated Organisation is stage 2 of development of an organisation in the Business Excellence Model, also known as EFQM (formerly known as the European Foundation for Quality Management). It is not an accreditation requirement to follow the full Business Excellence Model. However elements of the approach are suitable and helpful for small organisations such as Local Records Centres.

10.1 Process Steps

The identification of Process Steps is one part of being a Process Orientated Organisation. The following gives the Business Excellence Model context; this is followed by an explanation of Process Steps and an example of how this might work in an LERC.

EFQM BUSINESS EXCELLENCE ANALYSIS

In 1988 fourteen leading European businesses (amongst others Philips Electronics, KLM etc.) with a mission to be the Driving Force for Sustainable Excellence started with developing the EFQM Business Excellence model. In January 2001 at least 800 organisations in Europe use the EFQM Business Excellence Model to evaluate and improve their organisation in order to be among the best in the sector they are operating in. This is the basis and starting point of the EFQM Business Excellence Model. To be one of the best, organisations need to know their present status, their strong points and where they can improve. Based on this information organisations can define how they want to develop, their ambition and objectives. The EFQM Business Excellence Model is very useful in this process.

Five fundamental characteristics of excellent organisations

Leadership with guts: Based on external and internal information (for instance through a SWOT analysis) management defines the vision, course & direction of the organisation. Management propagates this course & direction, motivates and listens to people in the organisation, is aware of the consequences of changes and is integer and persistence.

Result oriented: Management creates value and keeps the appreciation of stakeholders (like customers, suppliers, partners, employees, management, financing companies and the society) in balance by organising and steering the organisation.

Continuous improvement: Results are measured continuously and compared with the objectives defined in the vision and mission of the organisation. Trends and deviations are analyzed and lead to lasting improvements. Management stimulates employees to propose innovative solutions and to exchange knowledge. (This is the basis of Criterion 10.3 Continuous Improvement)

Transparency: Processes, relations between processes and performance indicators are defined and communicated to stakeholders. Tasks, authorities, responsibilities of the organisation, departments and individuals are known (competence management is a tool for this). Costs and revenues are measurable for each process and each individual employee (and stakeholder) knows his or her contribution to the result of the organisation.

Co-operation: Management and employees have to work together in a professional way. Personal and organisational goals and objectives are tuned. Bureaucratic structures are removed as much as possible.

Why Change?

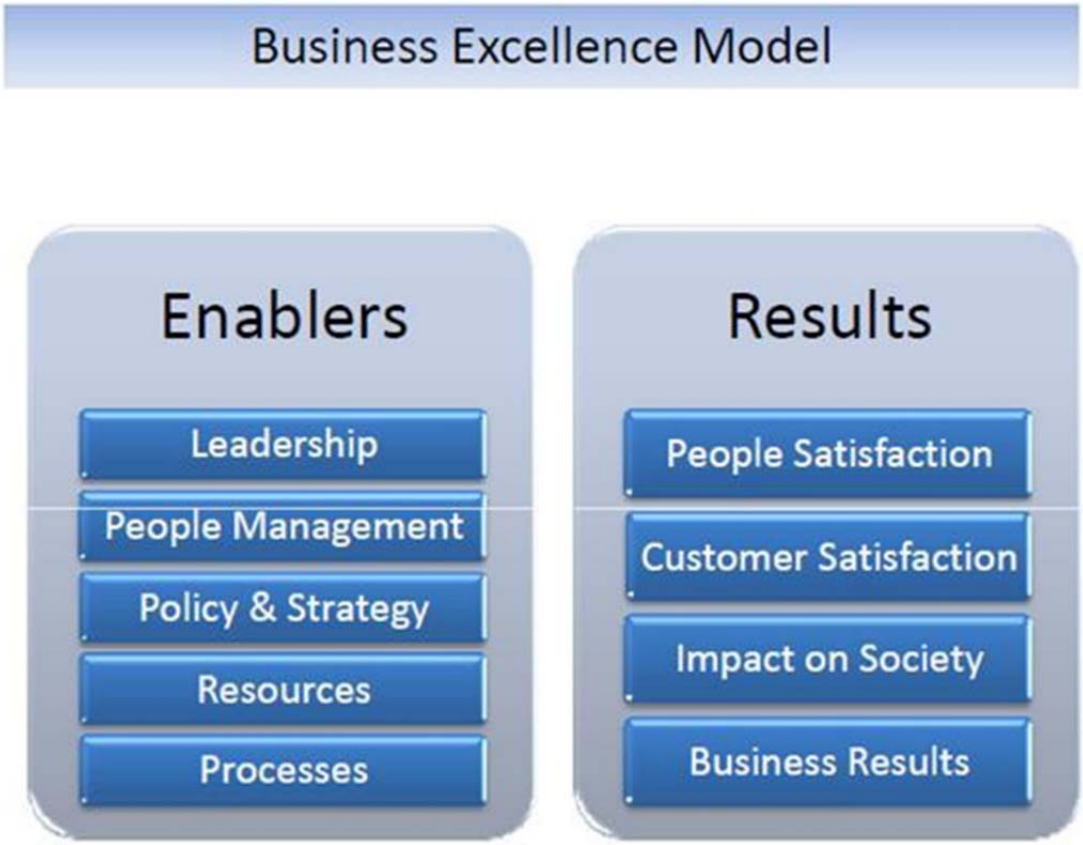
If the management team agrees with the fundamental starting points and characteristics of the excellence organisation as described above (the organisation doesn't need to be an excellent organisation at start of the process), next step is to define the necessity of change. When implementing the EFQM Business Excellence Model, management should be aware that the implementation requires an integral approach and commitment within the organisation. Organisational change can be time consuming and might lead to a new organisational structure and culture. Therefore, before starting implementing organisational change, management should first globally explore and discuss the necessity of this change. Reasons for organisational change are:

- Needed (or more) focus on clients;
- Reduction of costs and economize the organisation;
- Required innovation;
- Handling speed of the organisation;
- Flexibility;
- Risk control (EFQM Business Excellence Model can be combined with the COSO Enterprise Risk Model);
- Integral management of the organisation;
- Managing and balancing the opposite interest of various stakeholders in the organisation;
- Relationship with suppliers.

In case one or more of the above aspects (the list is not complete) is relevant, this could lead to a fundamental change of strategy, policy and/or management. In this case it is advisable to start with defining the position of the company. After defining the position of the organisation, management knows the strong points of the organisation and the fields where it can enhance the organisation. This should lead to an organisational development plan.

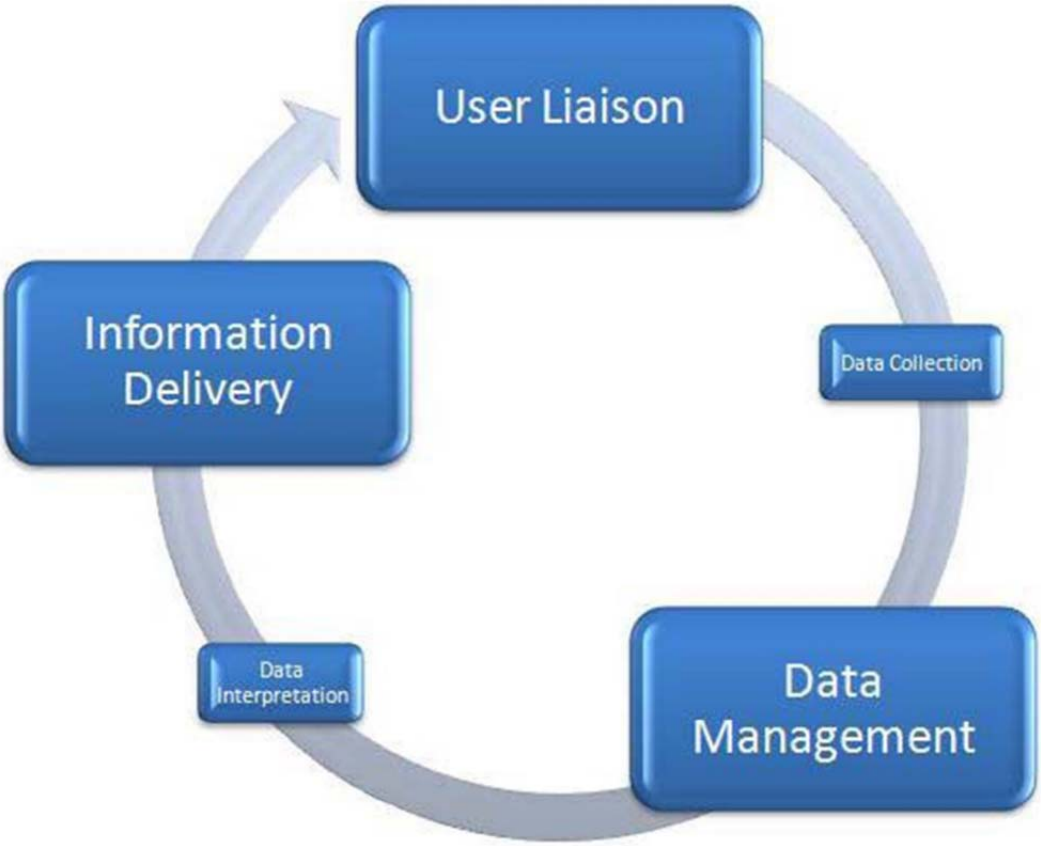
EFQM Business Excellence Model

The EFQM Business Excellence Model exists of nine attention fields (five organisational and four result fields) and a feedback loop.



Of the five possible development phases of the Business Excellence Model, Process Orientated is Phase 2. Phase 1 is Activity Orientated and Phase 3 is Systems Orientated.

This is a high level illustration of how an LERC might operate as a process.



Note how the process starts and finishes with user liaison. This emphasises how successful LERCs are strongly focused on the needs of their users (see also criterion 8. User and Provider Engagement). Note also how data interpretation turns data into information. Smaller LERCs may consider that they are delivering data rather than information; the terms are not consistently used. Larger LERCs may have more developed processes of data collection, including primary survey, and interpretation.

Eventually most of the LERC's operation can be described in a series of processes. Continuous improvement can then be achieved by monitoring performance against these processes, identifying deviations from the process and making changes.

This is an example of process steps within five high level activities identified by SERC (Somerset). The five activities are the equivalent of the five stages in the diagram above, using slightly different words.

Processes and Activities SERC.pdf

The DERC (Dorset) Validation and Verification procedure (see criterion 14. Validation and Verification Systems) is an example of a well documented internal LERC process.

Evidence

List of written procedures & processes and evidence of compliance.

The main requirement of this criterion is to identify and describe an internal LERC process; this may be a small part of, for example, data management or information delivery. Evidence is also needed that the LERC is actually following the process.

10.2 Individual Responsibilities & Authority

Evidence

Job descriptions, Annual work plan, Line manager identified, Annual Reporting.

Job descriptions should be presented for all full and part-time staff in the LERC, and any volunteer working more than a day per week and playing a key role in internal LERC processes. There should be clear links between the job descriptions and the high level processes identified in criterion 10.1 Process Steps. A line manager should be identified in each job description. The LERC Annual Report should summarise the staff posts and roles.

10.3 Continuous Improvement

Deming Circle of continuous improvement

Continuous improvement and renewing is needed to guarantee the continuity of an organisation. The EFQM Business Excellence Model is based on the Deming circle of continuous improvement:

Plan

The organisational fields in the planning phase are Leadership and Strategy & Policy:

Leadership: The way management organised the organisation inspires continuous improvement through:

- Development of a vision for future developments;
- Structure and culture of the organisation to be able to realize this vision;
- Facilitating and supporting the organisation;
- Example behavior of management.

Strategy & Policy:

- Implementation of mission by developing clear strategy for all stakeholders;
- Translation of strategy in clear policy, (project) plans and budgets;
- Communication about the information sources on which the strategy is based;
- Internal and external communication.

Do

The Do phase exists of the following organisational fields:

Management of employees: The way the organisation uses the knowledge and availability of employees in the best way possible to get a maximum result:

- Human resources policy;
- Investing in knowledge, skills and competences of employees;
- Appreciation and respect for the efforts of employees;
- Concern and care for well being of the employees.

Management of resources: The way how the organisation uses available sources to execute the activities efficiently and effectively:

- Money, knowledge, technology, materials and facilities;
- Co-operation with suppliers and partners to increase added value in the chain.

Management of processes: The way the organisation identifies, develops controls, improves and renews its processes. This includes the specific demands and possibilities of professionals that with their knowledge and experience have to operate autonomously.

Check

The check phase measures the results of the operation for each stakeholder in the organisation. For each group of stakeholders a specific measurement should be made:

Clients and suppliers: The accomplished results for clients, suppliers and partners are of utmost importance for the continuity of the organisation. Therefore the organisation should know how clients, suppliers and suppliers think of the products, services and co-operation.

Employees:

- What do employees think about the organisation;
- Does the organisation and the individual tasks of the employees satisfy the expectations of the employees in material and in-material way (development, challenge, motivation and reward);
- What kind of organisation does the organisation wants to be for its employees and is the organisation the organisation it wants to be.

Society:

Results of efforts in fields like the environment, education etc.

Board & Financial partners:

- How do they evaluate the performance of management?

- Are financial and operation objectives achieved?
- Are investments possible?
- What are the long-term perspectives to realize the vision of the organisation?

Act

The act phase is the improvement and renew phase in the diagram. After the EFQM Business Excellence Model analysis, the organisation has identified potential projects for developing and improving the organisation. Normally this analysis results in many projects that cannot be executed all at the same time. The Act phase combines projects when possible and prioritizes the projects:

- What has to be changed first (prioritizing);
- What can be changed (availability of resources (money, people etc.);
- The phasing/planning of the changes;
- Who will be responsible for the implementation of the changes?

Evidence

Audit trail of whatever process is being monitored, continuous improvement.

The process being monitored should be the one described in criterion 10.1 Process Steps. There should be a record of compliance with the process, and any steps taken to improve the process as a result of the monitoring.

10.4 Continuing Professional Development

Evidence

Staff CPD summary for previous 12 months.

11. Species and Habitat Data Management

The flora and fauna kingdoms covered by an LERC should include plants, animals, fungi and "protists and fungoids" (the latter including algae), but not normally bacteria and viruses.

Habitat data should be interpreted as vector data of habitat parcels held in GIS, normally in the form of habitat parcels, predominantly polygons/regions, but also lines/polylines and points. Presence data of habitats within sites is inadequate for most purposes.

Habitats can be categorised by any classification included in the NBN habitats dictionary, but note the emphasis on BAP Priority Habitats in criterion 18 Habitat Standards.

Recorder 6 users can use .xml reports to analyse statistics of species holdings. (Recorder 6 statistics - example xml reports)

The NBN Trust can produce customised reports to show which organisations are sharing data on the NBN Gateway within a Local Records Centre's boundary, how many records each organisation holds within the LERC boundary and what level of access the LERC has to each dataset. This list can be filtered to show only records of statutorily designated taxa if preferred. Local Records Centres can use this report to ascertain which datasets they do/do not have access to in their area, and can then apply for full access via the Gateway to ensure that these data are used locally to inform planning and land management decisions. These customised reports can be sent by e-mail as an Excel spreadsheet, and are available on request by contacting the NBN Trust Data Access Officer.

LERCs should consider using NBN Gateway web services to incorporate data from other sources into their data provision services (see criterion 16. Product and Service Suite). There is technical support available from the NBN Trust to do this. Some LERCs are already operating in this way, and developed tools may be available to support this function.

GiGL use a web services tool to query the NBN Gateway so that additional data can be included in data searches. GiGLWebServicesTool.doc

Evidence

Statistics on species records in database and habitat parcels mapped in GIS, including, separately, those external datasets accessed and included in integrated products and services.

Statistics on external datasets should only be included where they are being accesses via web services and included in products and services. Statistics should be broken down by taxonomic group, and ideally include numbers of BAP species and records as well as all species and records.

Note to ALERC assessors. Although there is no data quantity threshold for either species or habitats in this criterion, there needs to be reasonable evidence that the LERC is making serious efforts to include a substantial proportion of both species and habitat data for its area. If an applicant has only recently focused on one or other (normally habitat data)
then it should have an agreed programme of work in place to collate that data and the capacity to deliver the programme over the next few years. In addition it should have more than a nominal representation of the resource collated at the time of application.

12. Datasets Custodianship

This is a model licence that could be used as the basis of an agreement with a data provider on the LERC becoming a custodian of a dataset owned by the provider. It is an NBN model licence.

NBN Model Data Custodianship Licence Vs.1.DOC

Metadata guidance is covered here, but see also the reference in criterion 13. Data Exchange Principles. LERCs need to consider the question of dataset definition in the context of both custodianship and metadata.

Metadata format is not currently prescriptive (however, refer to the Inspire metadata regulations below); however in choosing the format you should take into account the advantages of users being able to access standard formats for all species datasets across the UK.

For species datasets being made available through the NBN Gateway, the following metadata format is required by the NBN Trust.

Metadata form for species datasets NBN.doc

This is also available for completion online.

Compiling metadata for habitat datasets is slightly more challenging. There are national and international standards for geographic dataset metadata; the NBN Position Statement on metadata maps the the GEMINI standard to NBN, GIgateway, ISO and E-GMS. NBN Metadata Position Statement - v1 1.doc Please note that the table at Annex 1 is not up-to-date and not Inspire compliant. The NBN Trust intends to revise this soon. Information on the Gemini standard, as referred to in the NBN Position Statement.

The relatively simple metadata structure used by Natural England for habitat inventory datasets is a useful model. An example can be viewed online.

If the LERC is a public body (see criterion 4. Environmental Information Regulations) then it has a legal requirement to comply with the Inspire Regulations, and specifically to implement the Inspire Metadata requirements for species distribution and habitat/biotope spatial datasets by 23 December 2013. If in doubt, legal advice should be sought on this point.

LERCs embarking on metadata work should consider the merits of implementing the full Inspire requirements from the outset ahead of the compliance date. As it is a legal requirement for those LERCs that are public bodies, full compliance with Inspire will need to be demonstrated from 23 December 2013. Those LERCs applying for accreditation in
2012 or 2013 will need to demonstrate that they can achieve compliance by the deadline.

A UK Location metadata editor tool that supports compilation of metadata that conforms to Gemini v2.1 and Inspire is in development.

Internal mechanisms for storing metadata within LERCs are not straightforward and probably need to be solved individually at present. Recorder 6, for example, cannot hold the full metadata required by the NBN species metadata form.

ArcGIS and ArcCatalog enables users to associate metadata with a shapefile by providing a front-end to add/import/edit/export metadata. It can be imported/exported in a variety of formats and is associated with a .shp file by creating a new .xml extension file. The metadata can then be viewed within ArcGIS once the .shp file is loaded and can be sent with the .shp file when sent to 3rd parties.

An extension may be required to conform to Gemini2 and INSPIRE standards.

An alternative approach, used in Hampshire and some other LERCs, is to create a separate metadata word document or PDF (see example). HBIC BOAs Metadata.pdf Although this can't be electronically associated with the relevant GIS files (so that the metadata can be viewed within ArcGIS or MapInfo), it does have the benefit that it can be easily viewed/printed and hence it is more likely to be read and understood. It is also very easy to create and can be made to meet INSPIRE and Gemini2 standards without any special software and can be loaded onto a website (e.g. see HBIC GIS metadata).

While this is a pragmatic solution for now, it is not considered to be an efficient solution in the mid term. There appears to be a need for an application or interface for both ArcGIS and MapInfo LERC users that will link with GIS datasets, conform to Gemini2 and INSPIRE, generate reports in various formats and encourage users of GIS datasets to read metadata and related information.

Compiling metadata for a large number of datasets can be extremely resource intensive. This issue needs to be considered alongside the question "How is a dataset defined?". One pragmatic answer is "a set of data with clear custodianship and for which useful metadata can be provided". This means that dataset definition may actually be a batch of surveys defined in Recorder 6, for example, rather than each survey representing a dataset that requires metadata. As a general guide, an LERC that believes it has more than
100 datasets should consider batching them up into a manageable number for which useful, descriptive metadata can be compiled.

An example of an easy-to-use and well presented searchable list of dataset metadata can be viewed on the COFNOD website . However, in itself this does not meet the requirements of criterion 12. Datasets Custodianship evidence, with respect to custodianship/ management, or of the Inspire Regulations (see above).

Evidence

List of datasets under custodianship and management on website.

13. Data Exchange Principles

These are the Data Exchange Principles and their rationale. They were produced by the NBN Trust in 2005.

Data Exchange Principles NBN.pdf

Your Data Access Policy should be written primarily for viewing by your Data Users. This is a model Data Sharing and Use Policy (effectively another name for a Data Access Policy) produced by the NBN Trust.

The NBN Gateway is one such delivery mechanism for your data. This Data Provider Agreement formalises the arrangements between an LERC and the NBN Trust regarding the provision of a dataset to users through the NBN Gateway.

Principle 2 - Confidentiality

NBN Trust Guidance on Sharing Sensitive Data.

NBN Trust Guidance on Applying the Environmental Harm Exception under the Environmental Information Regulations. (See also criterion 4. Environmental Information Regulations)

Principle 3 - Metadata

See also the Criteria on metadata in the guidance on criterion 12. Datasets Custodianship. LERCs need to consider the question of dataset definition in the context of both custodianship and metadata.

Principle 4 - Authority Transfer

NBN Trust Guidance on Managing Permissions to Share and Use Data.

NBN Trust Guidance on Clarifying Permissions to Share and Use Existing Data.

Data Flow

Guidance on handling data flow is given under criterion 8. User and Provider Engagement.

Evidence

13.1 Data access policy on website. Information delivery results.

13.2 Data Access Policy includes confidentiality. Evidence of some data held with controlled access.

13.3 Metadata on website.

13.4 Data Access Policy.

13.5 Data access policy on website.

13.6 Data Access Policy.

13.7 Data Access Policy includes Charging Policy.

Evidence of data exchange with a National Scheme and Society as part of a preferred data flow model. The evidence on this subject described in the Accreditation System Report will only be required for LERCs seeking accreditation after April 2011, on the completion of the NBN Trust/ Natural England/ JNCC project on data flow.

Note to assessors. Each of the policy documents required in evidence should show compliance with the Data Exchange Principles. During site visits, assessors should select case examples at random to check that documented policies are being followed.

14. Validation and Verification Systems

This NBN guide to Improving Wildlife Data Quality, written by former Hertfordshire LERC Manager Trevor James, describes various validation and verification approaches, including a check list of activities that LERCs could undertake.

The following Criteria includes extracts from the interpretation of this criterion from the main accreditation system report (in italics) and suggests ways of achieving each element. Case studies from four LERCs then give examples of practical approaches that have been found to work.

Validation and verification systems are likely to use the emerging NBN Data Validation toolkit.

This is the user guide to the Data Validator tool developed by the NBN Trust. In spite of the name the tool includes an element of verification as well as validation.

Data-Validator-User-guide-SGB.pdf

You can download the beta version of the data validator tool itself, but it won't work fully until it is loaded with new taxonomic rules due in March 2011. It is to be known as the "NBN Data Cleaner".

As part of the Defra Fund for Local Biodiversity Recording, Natural England and JNCC have been working on the development of a Data Validation Toolkit to assist with the validation and verification of species records. The toolkit supports importing from a number of sources, including text files, Excel spreadsheets, Recorder and MapMate databases. It runs validation checks such as ensuring correct formatting of dates, grid references etc. and verification checks, such as whether a species is within its known distribution, the difficulty of identification, period and period within year. The project is currently working with a number of national recording schemes to develop test rules for specific taxonomic groups. The toolkit also enables users to define their own rules, e.g. for local species distributions.

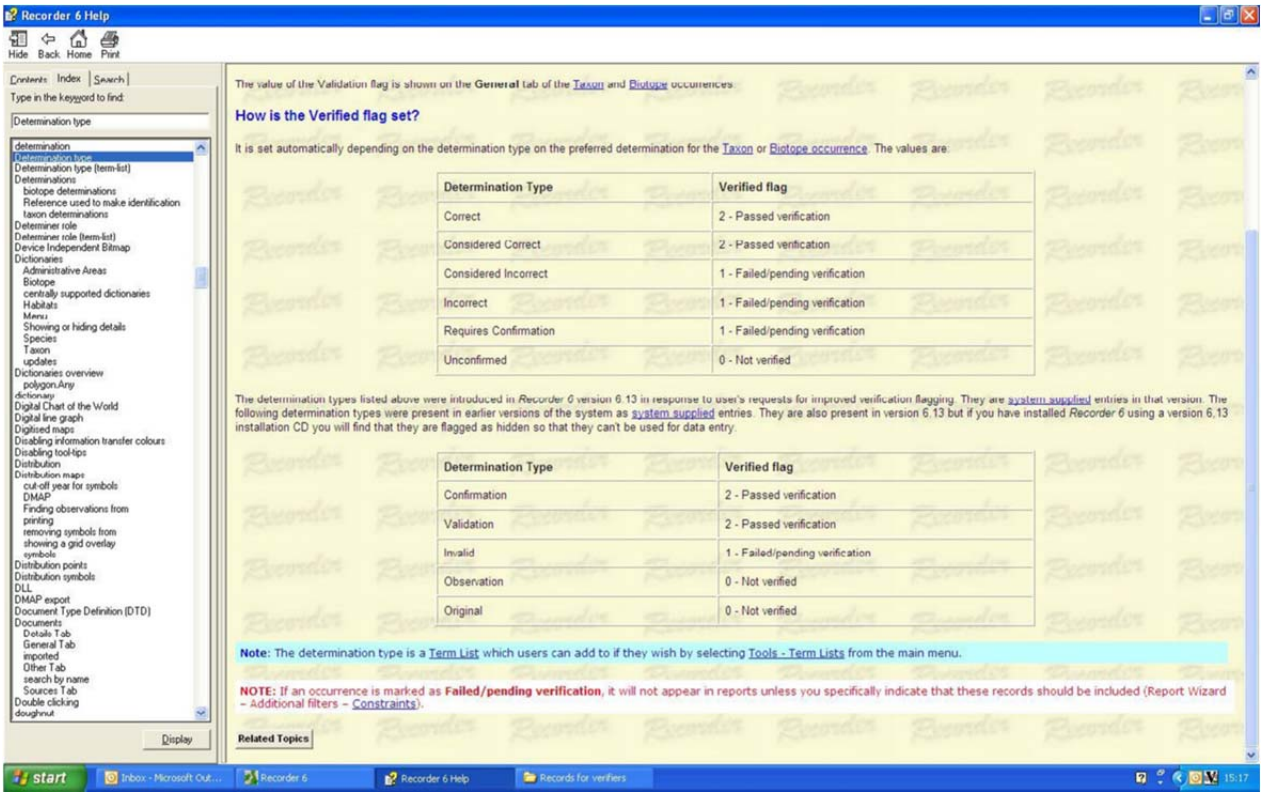
Validation and verification systems may be managed in combination with local recording groups and/or National Schemes and Societies.For each taxonomic group for which you hold significant data you should consult with your County Recorder and/or local recording group on the role they are prepared to play in the verification of records for that group, and the involvement of the relevant National Scheme or Society. Where there is no suitable local presence you may need to contact the National Scheme or Society direct. You should seek to agree the scope of records to be passed to the verifiers and the frequency and methods to be used to record verification status. Methods may be manual, based on spreadsheets (see Sussex example below) or online (see Cheshire example below).

LRC Accreditation Guidance Handbook – Criteria 14

LERCs should apply appropriate validation and verification systems and record the quality status of datasets in metadata and individual records in the database. Invalidated and unverified data should not be supplied, except in exceptional circumstances and then with clear quality warnings in both metadata and individual records. Your system needs to be documented in detail. For Recorder 6 users the method of recording verification status of individual records in the database is described below.

If you are a user of Recorder 6, the full documentation

of verification was difficult until recent addition of functionality in release 6.13. Here is a screenshot of the Recorder help page for Determination Type in release 6.15



Verification systems should include consideration of the need to support records of certain taxa with voucher specimens or photographs. Voucher specimens should be deposited with professionally maintained collections. The range of taxa for which additional material is needed should be agreed with National Schemes and Societies and local recording groups. The professionally maintained collection is likely to be your local museum. If, after discussions with your local recording groups and National

Schemes and Societies, you agree that voucher specimens need to be collected and maintained, then you will need to advertise this fact in your local recording guidance and find out whether your local museum is prepared to take on that role. If so, they are likely to have specimen standards and documentation requirements.

The following case study describes the validation and verification procedure in place at the Sussex Biodiversity Records Centre. Note the agreement on scope of species for which procedures are required, and the use of checklists and criteria.

Sussex Biodiversity Record Centre (SBRC): verifying and validating species data. SBRC regards data verification to be one of the most important, but also one of the more difficult tasks it undertakes, particularly because data it uses may be used for important land-use decisions. The Centre can receive up to 100,000 new records a month, mostly in digital form, so a targeted approach has to be taken to quality checking.

Automated data validation is carried out during the data import process to the Centre's 'Recorder 6' database, relying on its in-built date, grid reference and name checking capability. Data verification involves partnership working. Because of the quantity of records being received, and because most essential use is focused on them, a formal policy decision has been taken to focus effort on rare (at the Sussex level) and protected species. Criteria for defining locally rare and threatened species have been developed, in collaboration with local specialists. These are combined with national designations to form a list of some 3,000 "critical" species. All data received each week are filtered against this checklist of species, and records for species meeting these criteria are manually reviewed.

The following questions are used as a basis for the review:

• Has the species been recorded here before?

• Is this location a likely one for the species?

• Who has recorded it?

• Are there special problems with the identification of this species?

• Is this record already known to local specialists?

• Do these experts need to verify the record further before it is used?

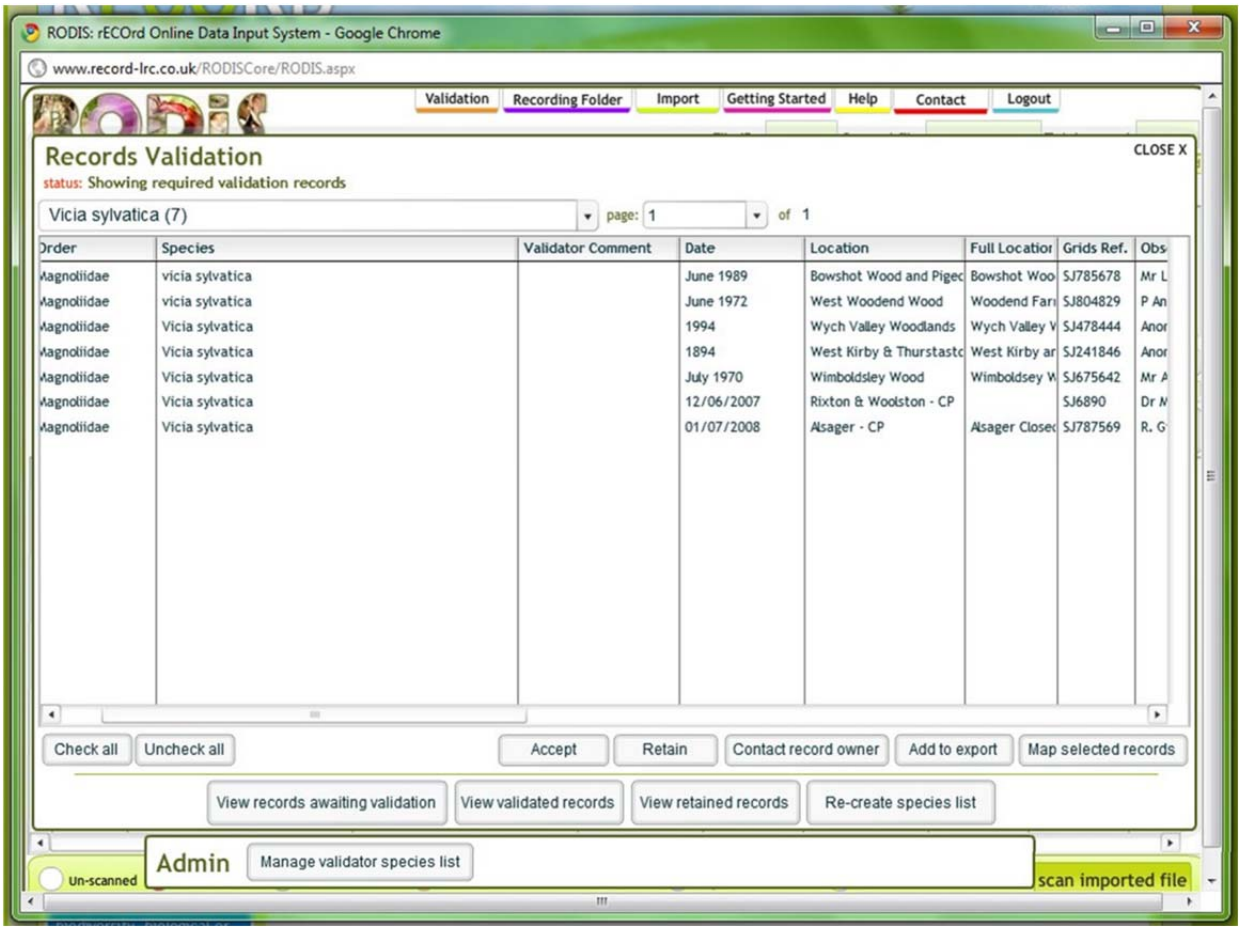
Data that may need further verification are submitted to local specialists by electronic spreadsheets. If these specialists require further checks, they follow this up with the Centre and/or with the original recorder.

The Cofnod (North Wales) Data Quality Policy Cofnod - Data Quality Policy v9.1.pdf describes a two tier approach to dealing with verification. Firstly by classifying each

dataset to a dataset category (see Criteria 3.3) then by assigning verification levels to data accessible through its Online Recording Level (see Criteria 3.6). The system works for Cofnod's customised database. However where data has been combined with other LERCs in Wales using Recorder 6, Welsh LERCs have devised simplified verification Levels similar to those described in Criteria 3.7.3 (the only difference being there is a single 'Considered Correct' category).

The DERC (Dorset) Validation Verification Procedure is written more for purposes of internal guidance, and focuses on new data received. It reflects recent practice and does not use some of the recent tools for re-determination and validation provided in Recorder 6. DERC validation verification.doc

RECORD (Cheshire) has developed an online verification tool that it is willing to share with other LERCs. All data entered into RECORD's Online Data Input System (RODIS) is accessible to, and is validated by, County Recorders where the species in the records have particular status or where the County Recorder has specifically requested to see all records for specific species. By inputting records through an online data input system, county recorders are able to screen selected species records whilst they reside on the server. Records requiring validation are not released to the LERC for data input until the country recorder has verified them. The county recorder is also able to request further evidence for specific records (such as photographs) through the system.



Evidence

Validation & Verification Policy. This should include the elements described in the accreditation system report and above, as follows:

Validation and verification systems are likely to use the emerging NBN Data Validation toolkit. Applicable from April 2011 onwards, when the tool is due for completion.

Validation and verification systems may be managed in combination with local recording groups and/or National Schemes and Societies. There must be evidence for this.

LERCs should apply appropriate validation and verification systems and record the quality status of datasets in metadata and individual records in the database. There must be evidence for active application of appropriate validation and verification systems and comprehensive recording of datasets and record quality status (check dataset attributes).

Invalidated and unverified data should not be supplied, except in exceptional circumstances and then with clear quality warnings in both metadata and individual records. This is a new requirement through this accreditation system. There should be evidence that this is now being applied and confidence that it will continue to be applied.

Verification systems should include consideration of the need to support records of certain taxa with voucher specimens or photographs. Voucher specimens should be deposited with professionally maintained collections. There should be evidence that this consideration has taken place. If it is now taking place for the first time then the assessor should be confident that the practice will be implemented from this point on.

15. Secure Archive

This has been produced by ALERC as a guide to archiving issues in LERCs. It covers elements of custodianship as well as archiving. Its suggestions go beyond the current requirements of criterion 15. Secure Archive at the standard accreditation level.

Archives and Metadata Guidance ALERC_WGA_01.pdf

Here is a template for a Business Continuity Plan.

businesscontinuityplan template.doc

The NBN Trust's guidance on data archiving.

Cofnod's Physical Data Security Policy Cofnod - Physical security of data v2.pdf, modelled on one used by other Welsh LERCs, covers many of the basic requirements for ensuring data are secure.

Evidence

Data Security Policy. Business Continuity Plan.

16. Product and Service Suite

This criterion describes six basic products and services that all LERCs should be in position to provide.

The needs of users should be established through engagement and consultation (see criterion 8. User and Provider Engagement).

Some generic needs of local authorities and national park authorities were described by an ALGE report in 2005. Note that this report pre-dates the introduction of national indicators such as NI197, which in itself is now under review.

16.1 Sites and Species Search

Here are some examples of sites and species searches generated by

LERCs. Pike Fold Blackley - SBIs.pdf

Pike Fold Blackley - LNRs Species.pdf

A good example of a site and species report is the one that Sussex BRC produce on an automated system. Sussex BRC Data Enquiry Demo Report Note that this exceeds the requirements of this criterion; it does however illustrate best practice in providing context to data searches.

TVERC simple data search example using basic site descriptions not full citations

Example simple data search - TVERC 2010.zip

Evidence

Product example, that includes the essential elements described in the criterion.

Statistic of supply frequency. The supply frequency should be in line with the demand experienced locally.

16.2 Habitats Search

Additional interpretation:

Note that the criterion refers to "recorded habitats". This is an acknowledgement that the coverage of BAP habitat data is rarely 100% and will be better for some habitats than others. Recently proposed BAP habitats, such as Open Mosaic Habitats on Previously Developed Land, ephemeral habitats such as Arable field margins, and extensive but resource intensive to survey habitats such as Hedgerows may have particularly low data coverage. The absence of 100% coverage for all BAP habitats present in the area will not

result in failure against this criterion. Rather, you should report on the data that is available, report on the data quality including coverage, and have a programme to increase data coverage over a period of time.

Here is an example of a BAP habitat data search output from SERC (Somerset). Habitats Data Search SERC.pdf

Another example of a habitat map including BAP habitats is shown under criterion 18.2 Single habitat parcels.

Evidence

Product example, that includes the essential elements described in the criterion.

Statistic of supply frequency. The supply frequency should be in line with the demand experienced locally.

16.3 BAP & LP Species List

This is an example of BAP Priority Species list for a defined area.

UK BAP Priority Species Habitats In GM.DOC

Evidence

Product example, that includes the essential elements described in the criterion.

Statistic of supply frequency. The supply frequency should be in line with the demand experienced locally.

16.4 BAP Habitats List

The product example under criterion 16.3 BAP & LP Species List includes BAP habitats.

Evidence

Product example, that includes the essential elements described in the criterion.

Statistic of supply frequency. The supply frequency should be in line with the demand experienced locally.

16.5 Species Distribution Maps

Distribution maps can be produced in four basic forms:

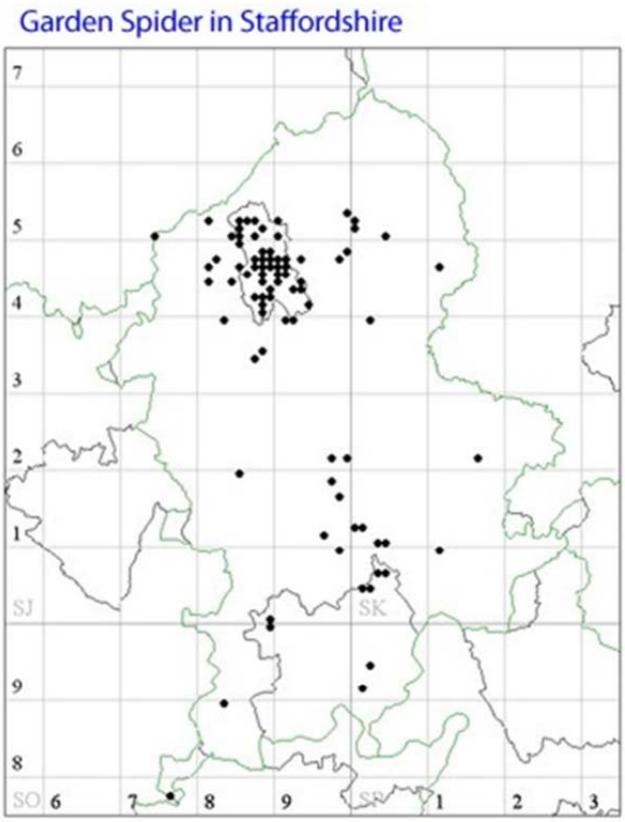
LRC Accreditation Guidance Handbook – Criteria 16

1. Traditional printed atlas, usually covering a recognised taxonomic group
2. Single printed map created for a specific purpose
3. online static maps (basically an electronic version of option 1
4. online dynamic maps driven by a background database sourced from the LERC master database

The maps should include a minimum of the following information:

- Title including the name of taxon/biotope mapped and an indication of the area covered
- Background map including at least a regional boundary and the Ordnance Survey grid at a sensible scale
- Key to explain if multiple symbols are used
- *Publishing date and publisher
- Scalebar or textual indication of the map scale where necessary
- *A short disclaimer to indicate lack of a dot does not necessarily mean absence, just lack of records (this may be included in the covering letter or introduction if there are multiple maps)
- Dot maps are usually displayed at a specific resolution (e.g. Tetrad or 1km sq) and the dots should be centred within the designated resolution, not plotted centred on the bottom left point, DMap, MapMate and Recorder 6 all make this correction automatically

The items marked '*' will normally be in the text accompanying the map rather than with the map itself, hence their absence in the example.



The maps may also include additional information including environmental factors, but it is important that the additions do not obscure the map itself.

Evidence

Product example, that includes the essential elements described in the criterion.

Statistic of supply frequency. The supply frequency should be in line with the demand experienced locally.

16.6 Data Quality Commentary

Coverage, currency, accuracy and precision are metrics of data quality proposed by Bill Butcher to the NBN Trust LERC Steering Group in 2006. They were also used in a report to English Nature on Habitat Data Custodianship by SW LERCs in 2005 (see below a note on the adoption of the terms by Natural England). The words are in widespread usage for data generally, but their interpretation for biodiversity data is relatively new.

The words are normally applied at a dataset level, and refer to the collection of data on one or more species, habitats or sites. Their use here is restricted to species and habitats data.

All of the metrics can be expressed as a percentage. Higher numbers generally reflect higher quality.

Coverage is a measure of how well the data reflects the actual extent/distribution of the species/habitat in the area. 0% is clearly a statement that there are no records although the species/habitat is known to be present, 100% is a statement that every occurrence has been captured to the dataset (a very rare state of affairs!). The figure for a good habitat dataset should be in the high tens, a species dataset normally lower (note that for species the metric needs to state the geoprecision being described e.g. the number will be higher for a 10km resolution dataset than a 100m). Note that this metric is a little unusual in that it is often a % of an unknown (the actual extent/distribution), and so is normally an estimate.

Currency is how up-to-date the data is. 5 year intervals before present is typically chosen - the metric is presented in histogram form. Note that currency declines with time, if new records are not continually added.

Accuracy is a measure of how many mistakes there are in the dataset. Errors of commission are included here i.e. the records which state that an observation was species/habitat x when in fact it was y. Note that errors of omission (the dataset does not contain a record of a species/habitat that actually occurs) are dealt with under coverage. Accuracy can often be assessed by sampling, or by the outcome of verification procedures (see criterion 14. Validation and Verification Systems). The metric should be 100% or very close to it after the application of a robust verification procedure.

Precision is a measure of data resolution. For biodiversity data the context is normally geoprecision of the original record and/or the presentation of the data to the user. Species data can be recorded/presented at 1m, 10m, 100m, 1km, tetrad, 10km, habitat parcel or site precision. Habitat precision is usually expressed in terms of GIS digitising scale. Precision can also be applied in terms of taxonomy (family, genus, species precision etc.) and habitat classification (Broad Habitats, Priority Habitats, Annex 1 habitats etc). This metric is also normally presented as a histogram, with % of records of each geoprecision category.

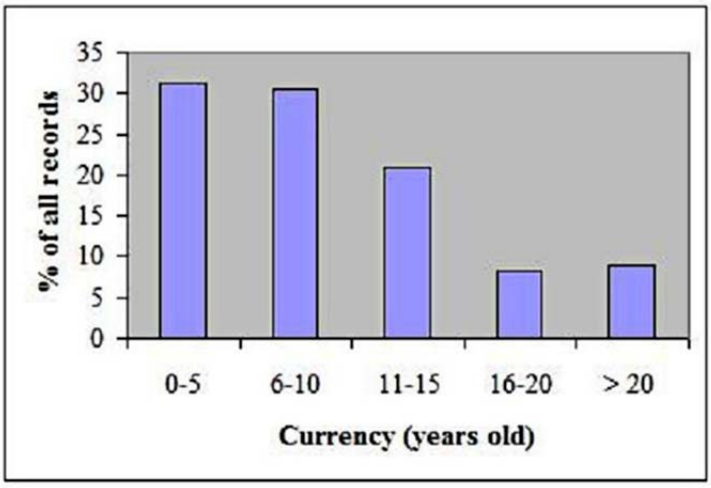
Note that accuracy and precision are often confused in common usage. High levels of geoprecision are often described as "accurate" rather than "precise". This misuse should be avoided.

Note also that there are often trade offs between precision and accuracy. For example it is much more straightforward to be highly accurate for a dataset of low precision.

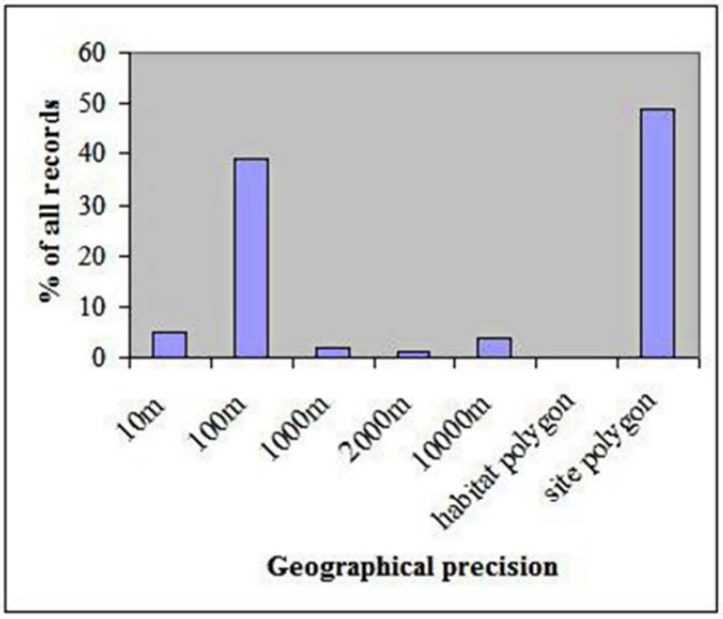
It's important to remember that the biodiversity dataset with 100% coverage at 100% currency in the last 5 years, 100% accuracy and 100% recorded at the most precise level possible does not exist.

Examples of presentation of data quality metrics:

This is an example of a currency metric (random sample of SERC database c. 2005)



This is an example of a precision metric ((random sample of SERC database c. 2005).



Note that data quality assessment needs to be applied only to the data held by the LERC, or data accessed for reporting purposes. The only reference to other data, or lack of it, is in the coverage estimate.

Data quality reports should be undertaken annually, and available on the LERC's website from 2012.

Adoption of the data quality terms by Natural England

The terms coverage, currency, accuracy and precision have been used in Natural England for some time to assess the quality of BAP priority habitat inventories and identify priorities for further work. Coverage is generally assessed from expert opinion or by comparision to broad habitats. Currency is based on the age of survey data. Accuracy is taken as the reliability of habitat identification, i.e. the relationship between the original survey classification and the identified habitat, following a rule-base. Precision is based on whether the habitat parcel is mapped or the boundary of the site unit containing the habitat. All these can be expressed as a percentage.

Natural England has commissioned a contract to develop field survey methodologies for 16 BAP priority habitats (covering wetlands, lowland grasslands, heathlands and uplands). These methdologies will provide a mechanism for identifying BAP priority habitats directly in the field, including associated Annex I habitats, along with updated habitat definitions and tools and a rule-base for translating from other habitat classifications.

Recorder 6 has some .xml reports that will generate subsets of the database for further analysis in Excel to generate data quality statistics (Recorder 6 statistics - example xml reports).

Evidence

Data quality reports (or evidence that the work is in hand if accreditation comes before the stated deadlines)

17 Species Standards

17.1 Species Nomenclature

This is a description of the NBN Species Dictionary. The link is a description on the Natural History Museum project site. The document below is NBN Trust's explanation of the dictionary.

NBN Species Dictionary.pdf

It is not mandatory to use Recorder 6. However users of other systems will need to consider how to comply with this criterion.

Recorder 6 contains taxonomic checklists which are used to make species observation records. There are many checklists for the same or different groups. The detail pane on the right contains detailed information for the selected item. This can include synonyms, common names, descriptions, pictures and links to other checklists on which this taxon occurs. To aid users, those checklists that are most useful for recording current observations have been grouped together at the beginning of the drop-down list. The names of these lists are preceded by the name, in CAPITAL LETTERS, of the taxonomic group they cover. These lists are the "preferred" lists.

The dictionary holds numerous lists and the same species name may occur on a number of different lists. Some time ago, the concept of preferred lists was developed. In essence these are lists which are considered by the Natural History Museum (the managers of the species dictionary) to represent the correct and current taxonomy for their taxonomic area. Ultimately it is hoped these will span the full taxonomic coverage of the UK and already there is good coverage of most of the popular groups. As a general rule matching to names on these ‘preferred’ lists is likely to be more robust. There is a flag in the TAXON_LIST table called “PREFERRED” which, if set to true, indicates that the list represents one of these preferred lists.

Recorder 6 users can add their own taxa to the database, but these additions are not directly linked to the NBN Species Dictionary.

Evidence

Species reporting nomenclature, link to dictionary.

Note to assessors: Note that Recorder 6 users may encounter difficulties in adding common names to the Species Dictionary, where these names are not thought to be of UK origin (even if they are used in the UK). By not allowing the addition of these names, users of Recorder are not able to "retain the recorded name" as specified by the recorder. This technical difficulty should not result in failure against this criterion.

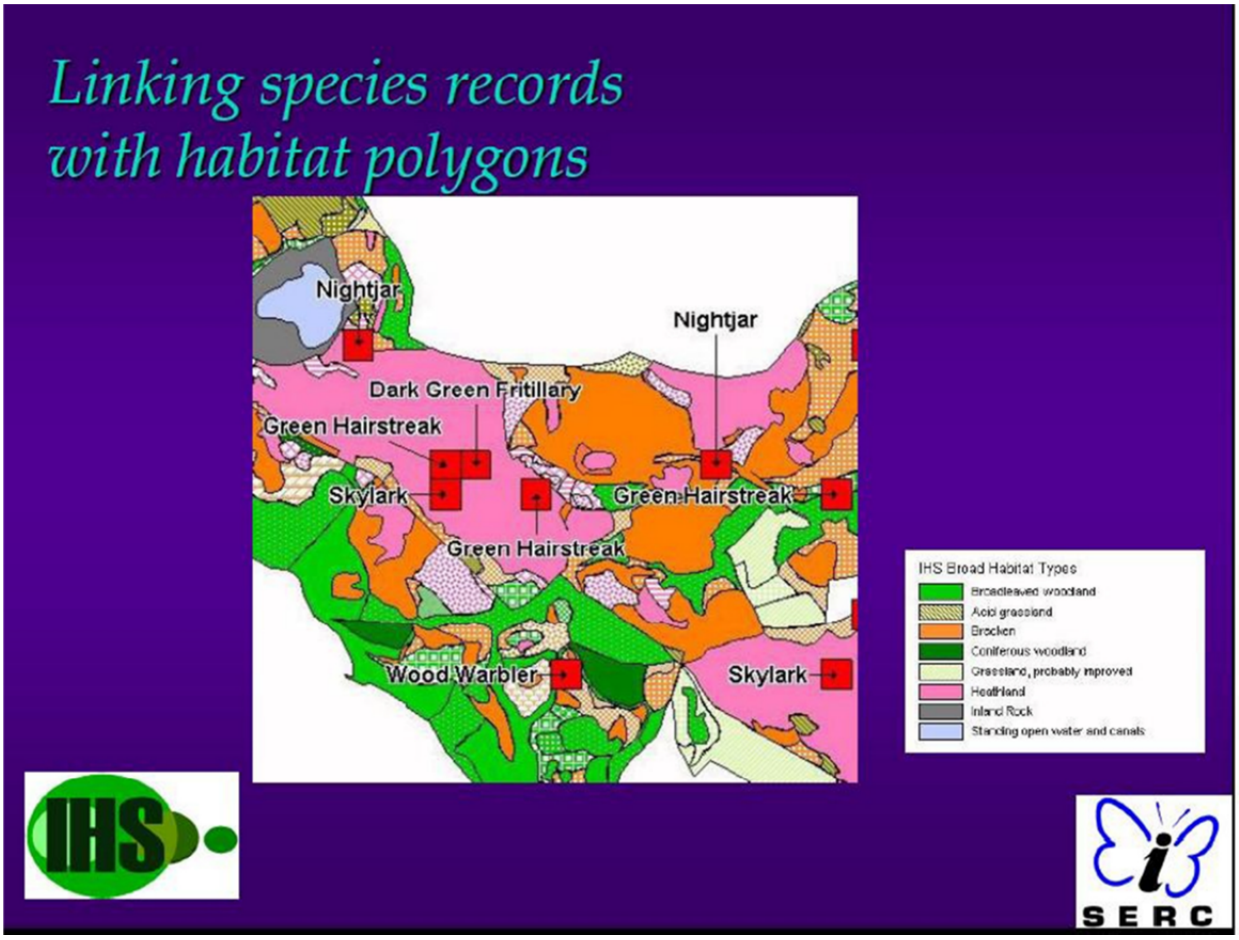
17.2 Species Record Precision

In the past many field biodiversity records were devalued at data capture stage through summarising the geoprecision to a generic level for a particular project, such as atlas production. Since field observation is usually the most resource intensive part of the process, and many uses of biodiversity data require high levels of geoprecision, this was quite wasteful. While there is always a certain trade off between data capture time and geoprecision, the original level of geoprecision should always be chosen for data capture by LERCs. The problem is now often reduced or removed by electronic data capture in the field.

Guidance on field recording practice, including geoprecision, will remain taxon and project specific; as a general rule LERCs should encourage higher precision recording in order to maximise the potential uses of the data. (see also criterion 20. Promotion of quality recording).

Species recording by habitat parcel can be a very informative technique where high quality habitat data is available. However there are no tools supporting this at present; LERCs undertaking this technique may need to develop their own GIS attribute driven system to support it.

The example below illustrates retrospective fit of species records to habitat parcels in GIS.



Evidence

Species records in 16.1 product example - the records should show suitable precision in line with this criterion.

Data capture policy - should confirm that precision is not degraded in data capture.

17.3 Species Records Source

It is not mandatory to use Recorder 6. However users of other systems will need to consider how they are going to meet this criterion.

Within Recorder 6 Source refers to the document from which the occurrence was extracted; this can be a traditional paper document (added to the Recorder Documents section), a reference to a field survey (again referenced in the Recorder Documents) or a digital document which can be linked directly.

Sources can separately be attached to all levels of the hierarchy including:

- Survey
    - Survey Event
        - Sample
            - Taxon Occurrence
            - Biotope Occurrence
- Location
- Names and Addresses
    - Personal
    - Organisation
- System Supplied Dictionaries
    - Taxon
    - Biotope

A source should include sufficient information to validate the record, the absolute minimum information included in the Document Criteria i.e. the following are all obligatory in Recorder 6:

- Author
- Publication Date
- Publication Type
- Title

Other valuable information (some dependant on the publication type)

- Storage location (i.e. where is a copy of the document!)
- Publisher/Publishing Location

- Journal including volume/number/pages (only relevant for journals and journal articles)

There are a few limitations currently within Recorder 6:

1. If a source is attached to a taxon occurrence, searching on source within the containing sample fails to find a match - whereas logic would dictate that if an occurrence is linked to a source, then the containing sample is obviously also related to the same source
2. If a source is imported using the "Publication Reference" field within the standard import routine or entered via the "Enter Species for a place" button, then the source is attached to the taxon occurrence whereas if the record is entered via the "Enter a species record..." button, the source is attached to the sample - this inconsistency causes problems searching for records for a single source!

Evidence

Database statistics, populated attribute.

18 Habitat Standards

18.1 BAP Habitat Reporting

BAP Priority Habitats

There are currently 66 BAP Priority Habitats in the UK. Their names (with, importantly, correct spelling and punctuation) and codes are here BAP Priority Habitat Names.xls.

The codes are from IHS version 3. Further information about IHS here. IHS names and codes are used in the Natural England GIS Data Capture Tool for habitat inventories. It is important to use codes as well as names to reduce problems of data compatibility.

Definitions of the 66 Priority Habitats are here BAP Priority Habitat Descriptions UK BAP.pdf

This document either has the current definition or a reference to an earlier definition.

Many Priority Habitats have mappable definitions. All of the available mapped definitions are in Natural England Inventory downloads.

BAP Priority Habitats should not be confused with Priority Habitats of the EU Habitats Directive, 1992 (starred habitats on Annex 1).

The NBN Habitats Dictionary

The NBN Habitats Dictionary can be found here.

The NBN Habitats Dictionary includes four classifications with comprehensive terrestrial, freshwater and marine coverage of UK habitats - Biodiversity Broad Habitats, EUNIS (European Union Nature Information System), CORINE biotopes and IHS (Integrated Habitat System).

The Dictionary includes several classifications with terrestrial and freshwater coverage of UK habitats, including NVC and Phase 1.

There are also a number of classifications which focus on a restricted subset of habitats, including Biodiversity Priority Habitats, Peterken Woodland Stand Types, Shimwell Urban Habitat Classification, Birks and Ratcliffe Upland Survey.

Note that the IHS version included in the dictionary is not the latest available version. Note also that BAP Priority Habitats are not comprehensively included here.

Local customised versions of classifications listed here are allowed for original recording provided that the customisation entirely fits within categories in the recognised classification and does not cut across recognised categories.

Translation

If your existing habitat data is not in BAP Priority Habitat or IHS format, it will need to be translated into BAP Priority Habitats.

There are two ways of doing this.

1. You can work out the correspondences yourself with the help of available resources. mappable definitions include some correspondence information with other habitat classifications. The NBN habitats dictionary also includes some correspondences. JNCC maintain habitat correspondence tables including what was formerly the NBN Biotope Dictionary. This includes the latest NBN Biotope Keys for the updated BAP list.
The correspondences between different classifications (Phase I, Annex I, EUNIS. NVC etc.) are currently in the process of being updated.

2. You can use the translation tool provided in IHS. This supports translation of Phase 1, NCC/RSNC, NVC and Peterken Stand Type datasets into IHS, including Priority Habitats. All of the correspondences have been predetermined and are in the tool. The user imports a dataset into the tool and runs the translator. The output is a mixture of fully resolved categories, where there is no ambiguity, and choices of IHS category where more than one is possible. The user must choose between the options using local knowledge and/or additional data.

Whichever method is used you should record the translated data in one attribute or set of attributes and retain the original recorded name in other attributes. Don't forget to record the versions of the classifications used. It's also important to describe the translation process in metadata.

GIS Data Capture Tools

If you're starting a new habitat data project you will need to consider a Data Capture tool.

A GIS Data Capture Tool provides a front end to a GIS that supports data capture of vector and attribute data to the GIS in an agreed format. They are usually designed for optimum speed and accuracy, including some data validation routines.

A Data Capture Tool was developed in 2003/4 by English Nature, working with SW England LERCs, for capturing BAP Priority data to GIS (Mapinfo). This was used for the SW NBN pilot project and later for capture of Engalnd wide habitat inventories. It includes the data model and attribute definitions as can now be viewed in the England habitat inventories.

North East Scotland Biological Records Centre developed a Data Capture Tool in 2004 for capture of IHS data to GIS (Arc). NESBReC habitat survey system 2011.doc

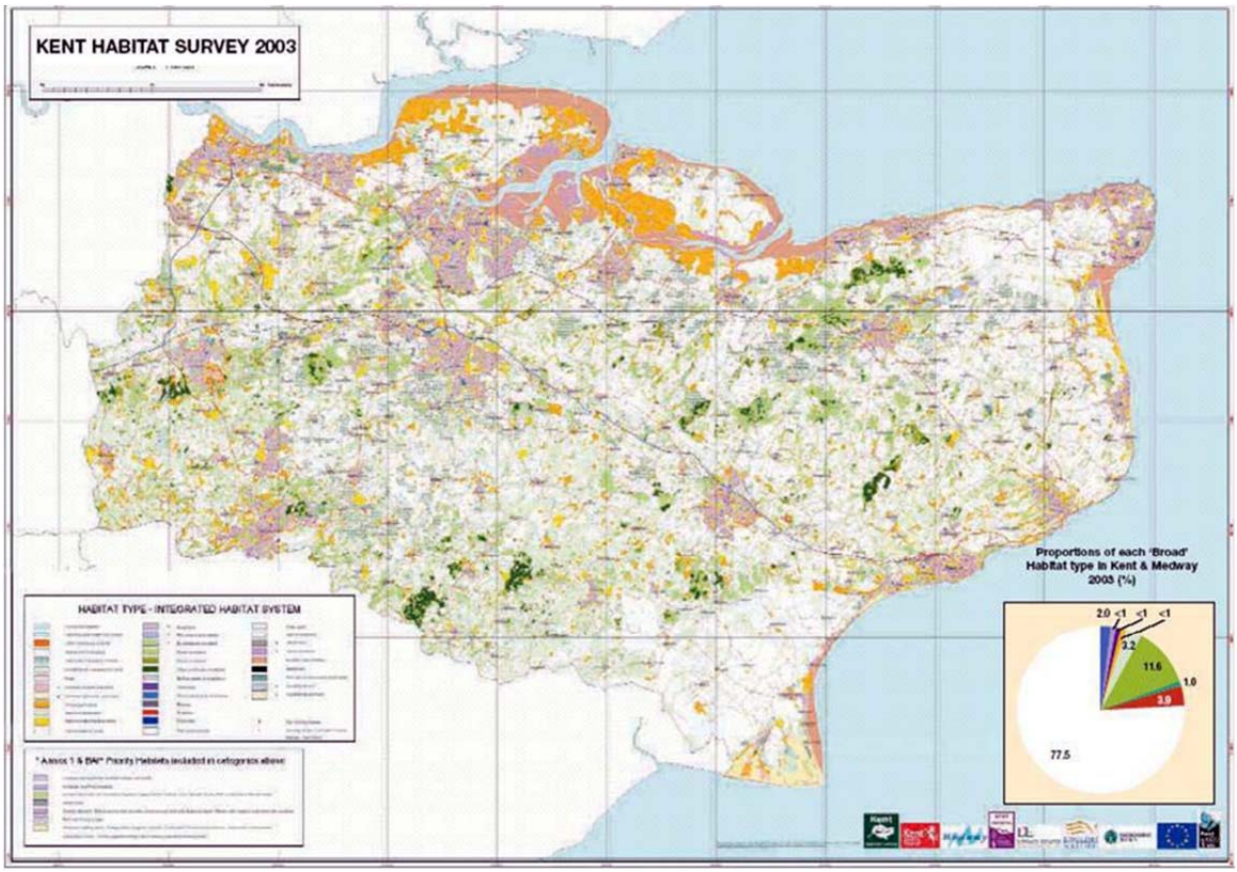
Hampshire Biodiversity Information Centre (HBIC), in consultation with all SE England LERCs and Natural England, has developed a Habitat and Land-Use (HLU) GIS Tool for capture of IHS data to GIS, currently applicable to restricted versions of MapInfo and ArcGIS. The HLU GIS tool will soon be in use across SE England LERCs and further details will be made available nationally via the ALERC technical forum.

The Habitat and Land Use (HLU) GIS Tool is for data capture/update on either ArcGIS (up-to version 9.3) or MapInfo (up-to version 9). It enables capture of all the relevant IHS codes, all related BAP Priority habitat determination/interpretation details and three sets of source details. It also stores simple history details of all updates including polygons splits and merges. It is designed to be used on a dataset based upon OS MasterMap data and hence will also ensure that polygon changes do not interfere with unique MasterMap TOIDs by managing TOID fragment ids where TOIDs are sub-divided.

The tool has been funded by NE and all the LERCs in South-East England and is expected to be completed in March 2011. HBIC invites interested LERCs to contribute to a combined pot of money to support the tool and go towards common enhancement requirements. In return they will receive a 'compiled' version of the tool, a copy of the installation/user guide and a voice in how the tool is enhanced.

Comprehensive survey example

This is an example of BAP Priority Habitat output from a comprehensive county survey. The 2001-03 survey is currently being updated by Kent County Council and partners, an impressive drive for currency data quality!



Evidence

The evidence required for this criterion is:

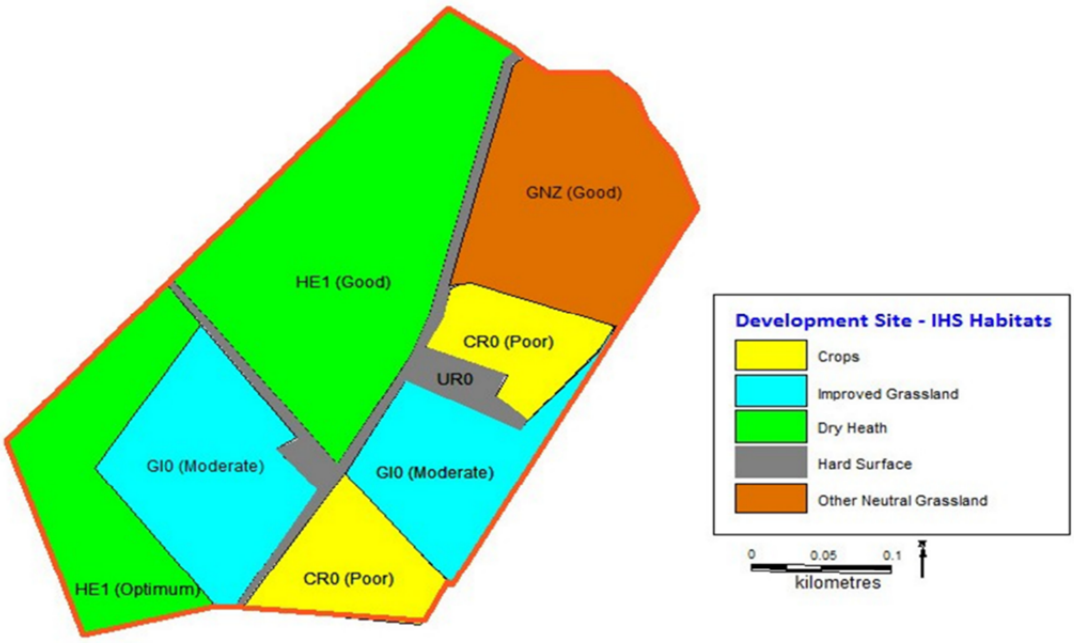
1. An example of data product 16.2 i.e. GIS data search of a project area showing recorded habitats. This should be presented in BAP habitat format.

2. Statistic of habitat coverage (area by classification) e.g. 50% of county mapped in Phase 1. 4% of county mapped as BAP Priority Habitat; we estimate that this represents around 70% of the area of BAP Priority Habitat that is actually present (see also 16.6 Data Quality Commentary).

18.2 Single habitat parcels

This means that a parcel (a polygon/region, polyline/line or point in GIS) can only have one category in the habitat classification being used. The parcel is defined by its habitat category. If an area has more than one habitat category then it must be split into its individual parts. If that's not possible or too much work or produces an impossibly busy map, use another classification instead, or, if the classification is hierarchical, consider applying it at a less precise level of the hierarchy so that the parcels are larger.

This is an example of habitat data that meets this criterion: (Region: Aberdeenshire, Classification:IHS, Organisation: NESBREC)



Note that this example also includes habitat quality information, which is irrelevant here.

This is an example of habitat data that does not meet the criterion: (Region: Cairngorms, Classification: NVC, Organisation: SNH)

Glen Tanar SAC NVC.emf

Note that having a parcel that has both a translated category and an original category in its attributes does not break this criterion - only the translated category is regarded as the current relevant category.

Note that an IHS multiplex category (a combination of a main habitat code with secondary codes such as origin and land-use) does not break this criterion as the whole multiplex is regarded as a single category.

Priority Habitats can be problematic in that some Priority Habitats (e.g. Wood-pasture and parkland, Coastal and floodplain grazing marsh) frequently overlap geographically with other Priority Habitats. The rules for this are obscure. The problem is overcome in IHS by the use of some Priority Habitats as a secondary code, so that they can be used with another Priority Habitat main habitat code in a multiplex without breaking the single habitat per parcel rule. If not using IHS the best solution may be to have more than one habitat layer and to allow overlap between layers, although this brings other issues of presenting an intelligible map to users.

Evidence

GIS data format for habitat layers should show that all parcels in a particular have one habitat category only in the habitat classification that is the primary classification in use.

Notes to assessors

If the habitat layer is translated from another classification, and the layer includes the original recorded habitat attributes (as it should in good practice), multiple habitat category entries in the source data does not mean failure against this criterion.

The use of IHS multiplex categories should not result in failure against this criterion (see above).

The use of recognised mosaics e.g. acidic grassland and heath in the uplands, should not result in failure against this criterion. However this should not permit the use of multiple mosaics invented as required and frequently used in poor quality habitat recording.

18.3 Habitat Record Precision

No guidance on this criterion is thought to be required at present.

Evidence

Habitat records in 16.2 product example, showing that habitats can be presented at variable precision.

Data capture policy, confirming that habitat precision is not degraded in data capture.

18.4 Habitat Records Source

It is just as important to develop and maintain metadata for habitat datasets as species datasets. There are currently no tools available for maintaining metadata for habitat datasets. LERCs should consider the format of metadata in Natural England habitat inventories and also take into account future obligations under the Inspire Regulations.

Evidence

GIS database statistics, populated attribute

19 Sites Standards

19.1 Local Wildlife Sites Information

The following example of a LWS citation, from Manchester, goes beyond the requirements of the criterion, as it includes a full site description.

LWS citation.pdf

Evidence

The Local Wildlife Sites Dataset should be included in the LERC's web metadata. The dataset should cover the whole of the area covered by the LERC. All sites should have GIS vector boundaries. The attributes in the dataset should include site code, site name and short description (at least one meaningful sentence covering habitat and/or species importance of the site).

19.2 Local Geological Sites Information

GeoConservationUK (previously UKRIGS) promotes a database to hold Local Geological Sites (previously known as RIGS or Regionally Important Geological/geomorphological Sites) site descriptions. This utilises a combination of free text descriptive sections and restricted keyword lists to describe the site and can subsequently produce standard reports for the site designation process.

This database (GeoConservation) was written in Microsoft Access 2000 and is available free of charge to member groups of GeoConservationUK.

Sample outputs from GeoConservation are available below, firstly an abbreviated version of the report showing only the essential information, secondly the Site Assessment Form and finally a full report (these are all created automatically by the GeoConservation software):

- GeologySiteReportBriefVersion.pdf
- GeologySiteAssessment.pdf
- GeologySiteReport.pdf

Evidence

The Local Geological Sites Dataset should be included in the LERC's web metadata. The dataset should cover the whole of the area covered by the LERC. All sites should have GIS vector boundaries. The attributes in the dataset should include site code, site name and short description (at least one meaningful sentence covering the geological importance of the site).

19.3 LWS System Standards

The Defra Guidance on Local Sites, 2005 is here local wildlife sites guidelines defra.pdf. This covers Local Wildlife Sites and Local Geological Sites (the preferred names).

The equivalent system in Scotland covers both wildlife and geological sites - Guidance on Establishing and Managing Local Nature Conservation Site Systems in Scotland.

Here is an example of Local Wildlife Site Selection Guidelines (Manchester, local name used - Sites of Biological Interest)

The SBI Guidelines.pdf

Evidence

- LWS policy. This should be a high level document describing the Local Wildlife Sites System for the area covered by the LERC. This might need to cover different systems for local areas within the LERC area.
- LWS selection criteria. This should cover the detailed criteria for assessment of potential Local Wildlife Sites, based on the Defra guidance. The citeria could be part of the policy or published as a separate document.
- LWS process. This should describe the process used, from survey of potential sites through to site selection and monitoring. It should give details of the consultation process used, the procedure with landowners, the interaction with local planning policy and the way that the LERC's role in the process interacts with partners. This could also be part of the policy or a separate document.
- Example of selection process. This should include documentation used in a recent selection process, including site survey, assessment against the criteria and decision by the selection panel. The example could be for an accepted or rejected potential site.
- Landowner consent evidence. This should include documentation of consent for survey having been sought and obtained, with an explanation of the reasons for any exceptions.

Notes to assessors

All of the evidence presented should be compatible with the Defra Guidance; judgement may need to be applied as to the acceptability of any divergence from the guidance. On site visits to the applicant, it would be reasonable to ask to see case evidence on selection process and landowner consent evidence for several sites selected at random from the whole list, and to expect to see 100% compliance in terms of delivery of the documented policy, criteria and process.

19.4 LGS System Standards

The Defra Guidance on Local Sites, 2005 is here Local Sites Guidance. This covers Local Wildlife Sites and Local Geological Sites (the preferred names).

This criterion is not applicable in Scotland, because the Scotland system refers to both wildlife and geological sites as Local Nature Conservation Sites; therefore the geological elements in Scotland are covered by criterion 19.3 LWS System Standards.

You can access RIGS Site Assessment forms and RIGS Guidance Handbooks, and other relevant geological materials from the GeoConservationUK site here. RIGS Guidance

Examples of full Local Geological Site reports are given under criterion 19.2 Local Geological Sites Information

Evidence

- LGS policy. This should be a high level document describing the Local Geological Sites System for the area covered by the LERC. This might need to cover different systems for local areas within the LERC area.
- LGS selection criteria. This should cover the detailed criteria for assessment of potential Local Geological Sites. The citeria could be part of the policy or published as a separate document.
- LGS process. This should describe the process used, from survey of potential sites through to site selection and monitoring. It should give details of the consultation process used, the procedure with landowners, the interaction with local planning policy and the way that the LERC's role in the process interacts with partners. This could also be part of the policy or a separate document.
- Example of selection process. This should include documentation used in a recent selection process, including site survey, assessment against the criteria and decision by the selection panel. The example could be for an accepted or rejected potential site.
- Landowner consent evidence. This should include documentation of consent for survey having been sought and obtained, with an explanation of the reasons for any exceptions.

Notes to assessors

All of the evidence presented should be compatible with national guidance; judgement may need to be applied as to the acceptability of any divergence from the guidance. On site visits to the applicant, it would be reasonable to ask to see case evidence on selection process and landowner consent evidence for several sites selected at random from the whole list, and to expect to see 100% compliance in terms of delivery of the documented policy, criteria and process.

20. Promotion of quality recording

High quality species and habitat recording can be regarded essentially as recording that generates data meeting standards described in these accreditation criteria.

Specific points requested by National Schemes and Societies (NSS) include:

- high resolution records with detail (resolution = precision see criterion 17.2 Species Record Precision), detail may include type of record (breeding etc.) and other comments
- checked with an expert (verification see criterion 14. Validation and Verification Systems)
- communicated electronically to a national scheme (data flow, see criterion 8. User and Provider Engagement)
- use of standard survey methodologies (not dealt with elsewhere in the standard criteria, consult the website of the national society for the taxa concerned)
- consultation with NSS on local methodologies (this means before inventing local methodologies, talk to the relevant NSS about compatibility)
- attributes appropriate to taxa (these might be agreed with your relevant local county recorder or natural history society)
- inclusion of record type
- consistent habitat mapping standards (see criterion 18 Habitat Standards).

LERCs should have recording advice on their website, links to external sites and offer at least a day's training a year to voluntary recorders.

Here is an example of an LERC website that provides various tools and guides to recording BRERC Recording.

ERCCIS (Cornwall), working with the Duchy College, runs an extensive series of field workshops and events to promote high quality recording.

Evidence

Recording guidance on LERC's website. The guidance should be in line with the accreditation criteria and guidance.

Details of a training event in the last year undertaken or organised by the LERC, delivered by the LERC itself or delivered in collaboration with a local group.

Documents List

Document	Criteria this document needed for
These documents always needed.	
Data Access Policy	3,4,13.2,13.4,13.5,13.6,13.7
Management Reports	4,6,8,
LERC Annual Report	6,8,10.2
Database and GIS statistics	11,17.3
Information delivery results	13.1
Website metadata	13.3,19.1,19.2
Validation & Verification Policy	14
Database attribute analysis on validation/ verification	14
Data security policy	15
Business Continuity Plan	15
Product examples	16.1, 16.2, 16.3, 16.4, 16.5,17.1,18.1, 18.3
Species reporting nomenclature	17.1
GIS attribute population	18.4
Habitat coverage statistic	18.1
GIS data format example	18.2
These documents also needed if the LERC is the agreed custodian of the LWS dataset for the area	
LWS Policy	19.3
LWS Selection Criteria	19.3
LWS Process	19.3
Example of LWS selection process	19.3
LWS Landowner consent evidence	19.3
These documents also needed if the LERC is the agreed custodian of the LGS dataset for the area	
LGS Policy	19.4
LGS Selection Criteria	19.4
LGS Process	19.4
Example of LGS selection process	19.4
LGS Landowner consent evidence	19.4
These documents may also be needed, depending on which criteria are included in the 16 selected	
Constitution or equivalent document in an LERC hosted by another organisation.	1,2,3,5.
Terms of reference of any separate Steering Group/ Advisory Group	1,2
Minutes of meetings demonstrating stakeholder influence.	1,2
Data Capture/Management Policy	3,4
LERC Boundary Map	7

LRC Accreditation Guidance Handbook – Documents List

LERC Overlap Report	7
Staff complement review	9
Manager job description	9
List of written procedures and processes	10.1
Compliance with procedures and processes	10.1
Staff job descriptions	10.2
Datasets list	12
Statistics of supply frequency	16.1, 16.2, 16.3, 16.4, 16.5
Data quality reports	16.6
Website recording guidance	20
Training event detail or written advice	20
Audit trail of a process	10.3