Norfolk Biodiversity Information Service
NBIS Data policies and processes

About NBIS

The Norfolk Biodiversity Information Service (NBIS) collates, manages and disseminates biological and geological information for Norfolk.

High-quality, up-to-date data is essential for understanding, managing, and protecting the natural environment.

As a Local Environmental Records Centre (LERC), NBIS plays a vital role in gathering and validating data from diverse sources and formats, working with local and national partners to ensure it is comprehensive, current, and accurate.

Incoming data is processed, validated, verified and stored, and made available as a range of data products for commercial and non-commercial use.

NBIS also actively supports and promotes biological recording across the county.

About this document

This document sets out the data policies and processes followed by the Norfolk Biodiversity Information Service (NBIS). It provides a clear and transparent overview of how NBIS captures, manages, shares, and safeguards biodiversity and geodiversity data. These policies are designed to support data providers, users, and partners in understanding NBIS's approach to data governance, and to ensure that all activities align with national standards, legal requirements, and best practice. In particular, these policies have been developed to reflect the NBN Data Exchange Principles and to fulfil the requirements for ALERC accreditation.

Document Structure

Section 1: Legislation & Guidelines
Legal frameworks NBIS complies with, including data protection, access rights, and metadata standards.

Section 2: Data Capture
Data sources, capture policies, quality standards, metadata, and provider agreements.

Section 3: Data Management
Policies and processes for validating, verifying, storing, and updating data.

Section 4: Data Sharing & Access
Policies for data availability, user access levels, confidentiality, and terms of use.

Section 5: Data Security
Measures to safeguard both digital and physical records, including secure systems and mandatory staff training.

Contents

Section 1: Legislation and guidelines

NBIS complies with the following legislation and guidelines as part of data management activities.

1.1 Legislation

1.1.1 Environmental Information Regulations 2004

The Environmental Information Regulations 2004 (EIR) give the public the right to access environmental information held by public authorities.

NBIS supports transparency and complies with EIR. However, EIR requests should not be used to bypass NBIS's standard data enquiry service, which is the appropriate and most efficient route for accessing environmental data. NBIS typically responds within a few days, compared to the 20 working days allowed under EIR.

Data provided under EIR cannot be reused without separate permission. All users must agree to NBIS's terms and conditions of data use. Requests are assessed under the public interest test and may be refused for reasons including manifestly unreasonable requests, requests that are too general, if they risk environmental harm, breach confidentiality, or involve personal data.

1.1.2 Freedom of Information Act 2000

The Freedom of Information Act 2000 (FOIA) provides a general right of access to recorded information held by most UK public authorities. It applies retrospectively to information created before 1 January 2005.

Anyone can request information in writing, and public authorities must respond within 20 working days, unless an exemption applies. These exemptions cover areas such as national security, law enforcement, commercial interests, personal data, or information already publicly available. Some are absolute; others require a public interest test.

Environmental information is excluded from FOIA and is instead governed by the Environmental Information Regulations 2004 (EIR). FOIA requests should not be used to request environmental information. All FOIA requests are responded to by the Compliance Team within Norfolk County Council - NBIS, when asked for information, will always respond within the internal deadlines set by the Compliance Team. NBIS will never respond directly to an EIR or FOIA request but will always pass to the Compliance Team.

1.1.3 UK General Data Protection Regulation (UK GDPR) 2021 and the Data Protection Act 2018

NBIS processes biodiversity data that may include personal information (e.g. names of recorders or landowners) and must comply with the UK GDPR and Data Protection Act 2018. Our Privacy Statement outlines how and why we collect this data, how long we keep it, and who can access it. By submitting records, individuals agree to this use.

NBIS must process personal data lawfully, typically under consent, public task, or legitimate interest. It must be transparent about data use, collect only what is necessary, and ensure accuracy, security, and timely disposal. Individuals have rights to access, correct, delete, or restrict their data. When sharing data with third parties, NBIS must have data sharing agreements in place. Roles of data controllers and processors must be clearly defined, with agreements or contracts including appropriate data protection clauses.

Special consideration must be taken when handling personal data linked to volunteer recorders and sensitive locations. Names and contact details of recorders should only be shared with their consent, and location data associated with individuals, such as records from private land, may also be considered personal and must be treated accordingly.

NBIS is working closely with Norfolk County Council's Information Governance team to ensure full compliance with GDPR across all areas of our operations.

All staff and volunteers are required to take a GDPR e-learning course every 2 years to allow access to the Norfolk County Council computer systems.

1.1.4 Intellectual property rights

Individual biological records cannot be copyrighted, given ownership or intellectual property. However, where these data have been collated in a way that creates or implies ownership: All data remains the intellectual property and, in the ownership, and copyright of the original recorder(s), unless transferred. NBIS follows best practice in treating all records in accordance with the original recorder(s)'(or their subsequent custodian - such as the County Recorder) wishes, including recognising the rights of recorder(s) to control their records which can be withdrawn at any time. Formal data sharing agreements help clarify responsibilities and protect rights. They allow NBIS acts as a custodian, managing data under agreed terms.

NBIS will seek permissions where necessary and acknowledge the recorder(s) where appropriate and feasible. NBIS terms and conditions specify that "Users must acknowledge in any publication, whether printed, electronic, internet-based or broadcast, based wholly or in part on NBIS data:

Biological records: "Biological records provided by Norfolk Biodiversity Information Service (NBIS), acting on behalf of the contributing biological recorders, whom whose rights are recognised". Specific database acknowledgements should also be made when given and are provided as part of dataset metadata information on My LERC and in the excel output.

Sites or habitats data: "Data provided by Norfolk Biodiversity Information Service (NBIS)". Plus the relevant copyright and licence acknowledgements, these are provided in the bottom left corner of eMapper outputs and will look similar to this 2022 version: "© Crown copyright and database rights 2022 OS 100019340. Open Government Licence. © Buglife, Plantlife (2020), RSPB (Licence), All Rights Reserved. Use subject to full licences."

For further details of legal rights and best practice, please see the following links: IPR of the data recorder; NBN data ownership 2019; Archive discussion on permission to share and use existing

data.

1.1.5 INSPIRE Regulations (2009) and GEMINI data standards.

The INSPIRE Regulations 2009 require public authorities to make spatial environmental data (e.g. maps, GIS layers) discoverable and accessible through standardised services. NBIS complies with Norfolk County Council requirements to meet these regulations.

NBIS is working towards using the UK GEMINI metadata standard, which ensures spatial datasets are described consistently in terms of content, quality, and access conditions. The NBIS database, ORCA, supports metadata creation aligned with GEMINI.

1.1.6 Accessibility

Under the Public Sector Bodies (Websites and Mobile Applications) (No. 2) Accessibility Regulations 2018, public sector websites and mobile apps must be accessible to all users, including those with disabilities. This includes both the NBIS website and the My LERC platform.

Key requirements include:

- Meeting the Web Content Accessibility Guidelines (WCAG) 2.1 AA standard.
- Publishing and maintaining an accessibility statement.
- Ensuring content is perceivable, operable, understandable, and robust.

These standards help ensure that digital services are inclusive and usable by as many people as possible, supporting NBIS's commitment to accessibility and public service.

1.1.7 Environment Act 2021

The Environment Act 2021, fully in force from 1 May 2025, sets legally binding targets for biodiversity and environmental recovery. NBIS supports its implementation by providing accurate, local biodiversity data for planning, conservation, and policy.

Biodiversity Net Gain (BNG)
BNG is now mandatory for most developments. NBIS helps by supplying baseline data, supporting habitat assessments, and contributing to monitoring outcomes.

Local Nature Recovery Strategies (LNRS)
NBIS provides data to inform LNRS mapping, supports local authorities in identifying key habitats and species, and helps track progress toward recovery goals.

Data Stewardship
NBIS maintains high-quality biodiversity records, shares data with relevant bodies, and ensures compliance with data protection, intellectual property, and environmental information regulations.

1.1.8 Other relevant legislation

For legislation relevant to the delivery of our data request service, please refer to our Best practice, data and ecological standards.

1.2 Guidelines

1.2.1 NBN Data Exchange principles

NBIS follows the NBN Data Exchange principles in providing access to data held.

1. Accessibility for Public Benefit	• Biodiversity data should be easily accessible for not-for-profit uses such as decision-making, education, and research.
2. Environmental Protection	• Data sharing should not lead to environmental harm. Sensitive data may need restricted access.
3. Metadata Transparency	• Data providers should supply enough metadata to help users understand the data's scope, origin, and limitations.
4. Acknowledgement of Data Providers	• Data users should acknowledge the source and give credit to data providers. A clear transfer of authority should be made to allow biodiversity managers to act on behalf of the biodiversity data owners.
5. Data Quality and Fitness for Purpose	• Users should assess whether data are suitable for their intended use.
6. Respect for Intellectual Property	• Data ownership and intellectual property rights must be respected.
7. Mutual Trust and Collaboration	• Organizations benefiting from shared data should also be willing to share their own data.

More information available on the NBN website here

Section 2: Data Capture Policy and processes

2.1. Data Acquisition

2.1.1 Sources of data

a) Species Data

The principal sources of species data for NBIS are volunteer recorders and county recorders, whose contributions form a significant part of our datasets. In addition, data is collected from local natural historians, wildlife groups, and professional ecologists through surveys and assessments. NBIS also draws on records from online platforms such as iRecord and the NBN, national recording schemes, conservation organisations, academic and research institutions, government bodies and agencies, as well as from historical records and NBIS-led recording initiatives.

b) Site Data

Information on both designated and non-designated sites is gathered from a range of sources, including statutory bodies such as Natural England, conservation organisations and through Local Wildlife Site surveys.

NBIS helps create and manage the Local Sites data for Norfolk. This encompasses County Wildlife Sites (CWS), Roadside Nature Reserves (RNRs), County Geological Sites (CGS), and candidate County Geological Sites (geosites).

c) Habitat Data

Habitat data is collected through a variety of methods, including habitat surveys such as Phase 1 and UKHab, remote sensing and aerial imagery, and detailed assessments conducted during Local Wildlife Site surveys.

NBIS provides habitat data in the Priority Habitat format when relevant and appropriate, ensuring alignment with current data standards and legislation. We are also working towards standardising our habitat data and, where possible, translating it into the UKHab classification system.

2.1.2 Types of data

NBIS holds data in various formats, including **digital records**, **GIS datasets**, and **paper-based documents**.

2.2. Data Capture Policies

2.2.1 Minimum Recording Standards for data acquisition

To ensure biological records are useful and fit for purpose, minimum recording standards define the essential elements required for data submission.

NBIS encourages recorders to provide data of the highest possible quality, exceeding the minimum standards detailed below where possible. Records that do not meet the minimum requirements cannot be used and will be rejected.

The CIEEM Good practice guidance for habitats and species, provides sign-posting to the most recent guidance documents for a range of species and habitats surveys.

NBIS will assess all incoming records against the minimum standards outlined below before they are accepted into the ORCA database.

a) Species

A species record must include four essential elements:

Who	The full **name of the observer** (and determiner, if different).
What	The **species name** (scientific and/or common), recorded to species level.
When	The **date of observation**, ideally as day, month, and year.
Where	The **location name and grid reference** (preferably 1km² resolution or better).

Additional details, such as age, sex, stage, number of individuals, habitat, weather, and behaviour, can enhance data quality and scientific value.

b) Historical species data

Historical records are those where the original recorder or data provider cannot be contacted for further information. These may not meet NBIS minimum standards and are therefore subject to lower threshold criteria. Where possible, we will endeavour to upgrade these historical records through additional research, such as reviewing existing sources or examining voucher specimens. The same approach is taken with records that are in an inaccessible format, that may result in delays in processing due to insufficient current resource.

Currently, species records are accepted in any format, with the standard NBIS records template (NBIS_Data_Template.xlsx) provided when asked for, and particularly to people who submit multiple records (e.g. ecological consultants). This template ensures that all four required components of a record (What, Where, When, Who) are included, as well as including columns for additional information.

c) Sites

Site boundaries are managed as ESRI Shapefiles.

The Shapefile boundaries for Nationally and Internationally designated sites are downloaded from the Natural England Open Data Geoportal. The layers provided are definitive and mapped to recognised standards. Citations for these sites can be found on the Natural England and JNCC websites.

The boundaries and pdf citations for the Locally Designated Sites are provided by the Local Sites Partnership, of which NBIS is a part.

d) Habitats

Habitat data mapped by NBIS is mapped according to the Natural England standards and snapped to OS MasterMap polygons where possible.

The current habitat layer used in data requests is the Norfolk Living Map. This habitat map was created using satellite and aerial imagery and ancillary datasets from 2011-2012 and 2018-2019. Its creation was as part of a project to produce a habitat map of Norfolk by means of object-based analysis of remote sensing imagery. It was developed from pilot stage analyses from the project "Making Earth Observation Work for UK Biodiversity – Phase 2", by Environment Systems Ltd, with further work by NBIS.

We plan to replace the current dataset with the LNRS Habitat Map once the Local Nature Recovery Strategy is formally adopted in Norfolk, which is expected by the end of the calendar year. While the LNRS map offers more up-to-date information, it will require further refinement to match the accuracy and precision of the existing Norfolk Living Map. Additional work will be needed to enhance its quality and ensure it meets the standards necessary for effective local planning and conservation efforts.

e) Dataset Metadata

NBIS will only be able to accept new data where the information supplied has sufficient metadata to allow biodiversity data users to assess the scope and potential uses of their information holdings. When biodiversity data is supplied, NBIS requests accompanying information (metadata) on its ownership, methods and scale of collection and limitations of interpretation, be provided using a standard form. We're currently reviewing this process and exploring a new online system to make it easier for data providers to engage with us, submit records, and include important metadata. This will also help us meet our responsibilities under GDPR and improve the overall experience for contributors. For historical and some existing data, we will endeavour to upgrade dataset metadata through additional research, but this may not be possible in all cases.

2.2.2 Identifying datasets

a) What is a casual record

A casual record is an informal observation of a species made spontaneously. Unlike structured surveys, these records typically reflect opportunistic sightings rather than systematic data collection using agreed methodologies/scientific standards. An individual may submit several records from their patch over an extended period, but this would not be considered a survey. NBIS collates all casual records it receives into specific casual record datasets.

b) What is a dataset

NBIS define a dataset as a collection of records that share one or more of the following parameters: data owner, data collection commission by, data collection collated by, geographic coverage, temporal coverage, purpose, data capture methods, verification/validation procedures. Survey and monitoring records are typically datasets.

2.2.3 Acknowledgement

All newly received data is acknowledged promptly with a message of thanks to the data provider. This will typically be via the automatic reply from the NBIS inbox. For data sent by post, we will acknowledge receipt using any contact information provided. We aim to respond within five working days of receiving your mail. Please note that postal delivery times may vary, and it can take a while for items to reach us.

2.2.4 Data agreements

a) Data licences

For new datasets, a dataset metadata form captures this information from the data provider.

For casual records sent to NBIS, the licence will be CC BY-NC. County Recorders will determine the licence type for casual records from their taxonomic areas of intertest, that are sent directly to them.

Licence Type	**What it Means**
CC BY-NC	This license enables re-users to distribute, remix, adapt, and build upon the material in any medium or format for non-commercial purposes only, and only so long as attribution is given to the creator.
CC-BY	This license enables re-users to distribute, remix, adapt, and build upon the material in any medium or format, so long as attribution is given to the creator. The license allows for commercial use.
CC0	Enables re-users to distribute, remix, adapt, and build upon the material in any medium or format, with no conditions.
OGL	Enables re-users to copy, publish, distribute, transmit adapt and exploit the information (including commercially) as long as they acknowledge the source of the information and include any specified attribution statement.

Data are only included in enquires where there is dataset provider permission to do so. Module permissions allow the data licence to be recorded in the NBIS database software (ORCA). Module permissions ensure any release restrictions to the record and documents are applied, and this includes if records can be shared with the NBN.

These permissions are detailed in an associated data sharing agreement linked to the dataset and stored as an agreement in ORCA.

b) Data provider agreements

NBIS establishes data sharing or exchange agreements with data owners to ensure their rights are protected. These agreements, formed between NBIS and the data owner, clearly define the responsibilities of both parties. For casual record this will be via email or online form. Where data is provided by third parties, who are not the data owner, NBIS will ensure that this is covered by a data exchange agreement between the data provider and data owner or seek to establish one.

NBIS must identify the ownership of all data it holds, including raw and processed data, and agree with owners on how their data will be managed and used. NBIS will make all reasonable efforts to establish ownership of all data, within reasonable timescale and effort, dependant on available resources. This will not be possible for historical records, where this is not currently in place.

In line with NBN Data Exchange Principle 4, a clear transfer of authority will be established when compiling environmental data resources, enabling data managers to act on behalf of data owners.

The purpose of data agreements is to protect data owner rights, define the roles of data providers and NBIS, and promote high standards of data recording. Agreements will not typically be made if data owners impose restrictions that prevent third-party access, and providers would be encouraged to remove these restrictions.

All agreements will be simple, clear, and user-friendly, outlining the terms under which NBIS accepts and manages data, and under which data is provided. NBIS discourages unnecessary restrictions that limit data availability beyond its standard access terms. Agreements will typically license NBIS to release data without further consultation, provided requests align with its data access policy.

As part of these data exchange agreements, NBIS is also committed to providing data to its partners where appropriate. This reciprocal approach supports transparency and collaboration, ensuring that data flows both to and from NBIS in a way that benefits all parties. Any data shared by NBIS will be released in accordance with NBIS's data access policy.

NBIS maintains a register of all data exchange agreements to ensure transparency and accountability.

<u>Data Exchange Agreements (DEAs) with County Recorders and designated verifiers</u>

NBIS seeks to establish or update DEAs with all County Recorders and designated verifiers working on behalf of the Norfolk and Norwich Naturalists' Society. These agreements define the responsibilities of both NBIS and the verifiers.

Many County Recorders are also involved with relevant National Schemes or Societies, meaning data exchange between NBIS and these national bodies often occurs through them. As NBIS works to streamline data flows for each taxonomic group, the process has become more

complex. This effort aims to reduce record duplication and improve understanding of the most effective data handling processes for each group.

NBIS has been formalising data flow and record verification processes with County Recorders and the Norfolk and Norwich Naturalists' Society. All agreements, whether signed or pending, are currently under review to ensure compliance with GDPR, legal standards and changes in processes following the implementation of ORCA, in collaboration with Norfolk County Council's legal team.

c) 1.3.2 Data ownership

The ownership of the original raw data remains with the recorder, unless this is waived in writing.

Publications and analysed reports are owned by NBIS, however credits to the original data owners will be included if requested in their data agreement, or where data from a single source constitutes a large proportion of the data used.

NBIS clearly defines the ownership of all the data it holds and manages, including raw data and processed information/products. In this context, raw data is the information supplied to NBIS prior to any processing.

Removal of data

Data owners may request in writing that any or all of their data be removed from NBIS. NBIS will stop using and distributing the data and will remove it from NBIS managed ORCA systems and original files within a month of the request and confirm this in writing. NBIS will request removal of data held on ORCA back-up systems, managed under contract.

d) 1.3.3 Data Copyright

Individual biological records cannot be copyrighted, given ownership or intellectual property. However, where these data have been collated in a way that creates or implies ownership: All data remains the intellectual property and, in the ownership, and copyright of the original recorder(s). NBIS follows best practice in treating all records in accordance with the original recorder(s)'(or their subsequent custodian - such as the County Recorder) wishes, including recognising the rights of recorder(s) to control their records. NBIS will seek permissions where necessary and acknowledge the recorder(s) where appropriate and feasible. For further details of legal rights and best practice, please see the following links: IPR of the data recorder; NBN data ownership 2019; Archive discussion on permission to share and use existing data.

e) 1.3.4 Personal Data

All personal information is managed in compliance with the Data Protection Act 2018. NBIS is registered under this legislation through its hosting organisation, Norfolk County Council. For further details on managing personal data please see Section 1.1.3 UK General Data Protection Regulation (UK GDPR) 2021 and the Data Protection Act 2018.

2.2.5 Restrictions

2.2.5.1 General restrictions

The ORCA database management system allows restrictions to be added to datasets by the data owner regarding how data can be released. For example, there might be restrictions on which types of packages the data can be released in, the release of records for individual or groups of species within the dataset, the maximum release area and length, trusted organisations to whom the data may be released or fields that need to be redacted or blurred. Further details on this can be found in the NBIS Best practice, data, and ecological standards and Charging policy.

2.2.5.2 Confidential Records (data capture)

a) Confidential Species

Confidential records will only be accepted in exceptional circumstances, where there is a good ecological reason or the need for site confidentiality that the record should not be released in data enquiries, but it is of sufficient value for us to store it, for example for use in analysis and project work where the record itself is not released. An example could be badger sett records collected on private land which the landowner does not want released.

If a record comes in as confidential, we will go back to the data provider and ask for a justification and explain how we manage sensitive species data and who that is shared with. Records that are confidential in the ORCA database will not be available for use in planning decisions and conservation work and will therefore be of little value. If the data provider still feels that the record(s) should be confidential NBIS will consider if they will accept them, which may include consultation with relevant county recorders.

b) Confidential Sites

When the site or site dataset is confidential, the record(s) can still be released but with the grid reference blurred to an agreed resolution. If this is not possible the record is flagged as confidential with the reason noted as the site. In this case the record is not released, as flagging a record as confidential prevents it being released in data requests.

c) Data provider confidentiality

Data providers that are organisations are identified on our website. NBIS does not include the names of ecological consultancies or individual recorders in publicly available dataset metadata. Ecological consultancy names are added to the "recorder name" field and stored in a separate "data owner" field that is not accessible to the public. This information is kept confidential and is not shared in response to data requests.

2.3 Addressing Gaps

NBIS will identify, develop and maintain relationships with individuals and organisations that hold, or potentially hold, significant biological data relevant to the area of coverage of NBIS.

NBIS will produce gaps analysis summaries and targeting recording guidance

NBIS will also take all reasonable measures to obtain authority to collate, manage and disseminate existing 'legacy' environmental information.

2.4 Supporting data capture

2.4.1 Recording Methods

NBIS advises on the use of appropriate survey and sampling techniques, and encourages the use of recognised standard methods, to ensure the maximum value from collected data. NBIS does this by:

- Staying informed on standard species and habitat recording methods.
- Sharing or signposting information on these methods.
- Promoting standardised recording practices.
- Encouraging contributors to improve survey skills through training.
- Requesting that submitted data includes the recording method used.
- Collaborating with the Norfolk and Norwich Naturalists' Society, Norfolk Wildlife Trust, and other environmental organisations to co-develop biodiversity surveys and promote the use of standardised recording methods across the region.
- Collating existing guidance and developing tailored survey and monitoring advice or full strategies to support consistent, high-quality biodiversity data collection across the region.

2.4.2 Improving identification skills

NBIS offers advice and encouragement to data providers of all levels of experience on developing their identification skills, to allow them to become more knowledgeable about the taxonomic groups and habitats they are familiar with, and to expand their taxonomic coverage. When resources allow, NBIS will provide workshops and course on species identification.

2.4.3 Promotion of recording

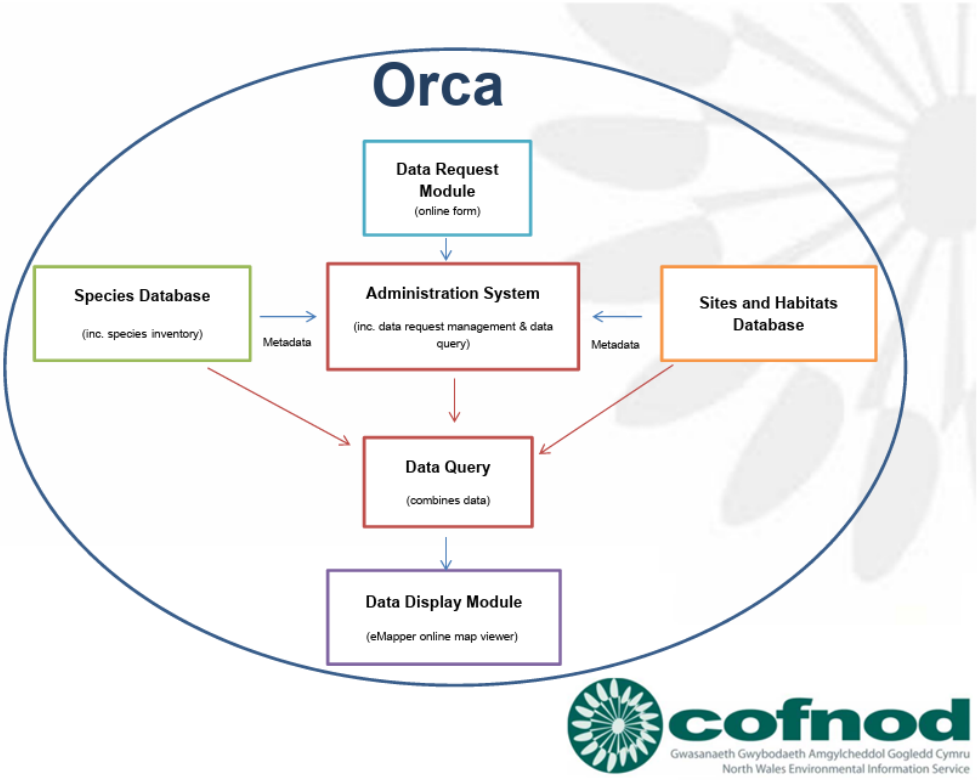
NBIS supports County Recorders, local experts, and environmental organisations in developing and enhancing biological recording initiatives and volunteer engagement.

NBIS promotes the development of recording and identification skills through training, resources, and collaboration, helping to build a skilled and active recording community across Norfolk.

Section 3: Data management policies and processes

3.1 NBIS data management systems

The NBIS database is managed using ORCA, a specialised software platform developed by Cofnod, the Biological Records Centre for North Wales. ORCA supports both the integrated management and provision of biodiversity data, as well as the administrative functions of the record centre. NBIS pays a contractual fee to Cofnod for the use and ongoing support of the ORCA system.



3.2 Species data

3.2.1 Data entry Policy

Data entry into ORCA is carried out by trained staff. This is guided by internal procedures, detailed in the data in “HowTo”. This document will also be used to train new staff and encourage consistent data entry.

In addition, we are considering introducing quality assurance checks as resources allow, whereby a member of staff cross-checks a random sample of data (entered by another member of staff) against the original data. This will help identify any inconsistencies in data entry methods as well as any potential data entry errors.

Procedures are in place to ensure that data entered ORCA is GDPR compliant.

3.2.1.1 Data import prioritisation policy

NBIS receives more species data than it can currently process, due to limited staffing and a commitment to high validation standards before importing data into the ORCA database. To manage this, datasets are prioritised upon logging, based on their content and relevance:

- **High Priority**: Datasets primarily containing legally protected or notable species, or those related to designated or proposed wildlife sites.
- **Medium Priority**: Datasets with some protected or notable species, not linked to designated sites.
- **Low Priority**: All other datasets.

NBIS aims to validate and upload all high-priority datasets within 12 months of receipt. At all priority levels, current data will be given precedent.

3.2.2 Validation policy

NBIS validates all biological records to ensure they meet minimum data standards and are accurate and complete. Data processing is carried out by trained staff. Each record must include a standard format with an Ordnance Survey grid reference, location, recorder name, and a scientific species name from the NBN Species Inventory. Standard lists are used to populate fields where possible, to ensure consistent terminology. If there are any issues, NBIS staff contact the recorder and may request supporting evidence such as photos or specimens. NBIS encourages recorders to provide a level of certainty with records to assist with record validation and verification.

3.2.3 Validation process

The process has two steps, manual checking by a member of NBIS staff and then automated checks which are applied on import. NBIS validates all records that it receives in this way.

3.2.3.1 Digital Species Records import and validation

All species records received by NBIS, are formatted for entry into our ORCA database. This typically follows the following stages. All records need to be traceable to show what stages of the data management process have been completed.

a) Manual Validation “4Ws”

Records are sent to the NBIS inbox nbis@norfolk.gov.uk. All emails to the NBIS inbox receive a generic automatic email acknowledging receipt and thanking the sender for any records. All

submitted records are checked to ensure they include the minimum required information—the four W's (What, Where, When, Who). If details are missing or unclear, NBIS will contact the recorder for clarification, including on restrictions, confidentiality, or licensing. For discrete datasets, further information such as metadata and licensing terms is often required, and a data sharing agreement may be appropriate. NBIS aims to respond to record-related emails within five working days (Monday–Friday, 9am–3pm). Once complete information is received, data is saved in the relevant 'Data In' folder within five working days.

b) Data Prioritisation

See data prioritisation policy above.

c) Formatting

Species data is imported into ORCA from an Excel spreadsheet. Data provided in other formats is entered onto an Excel spreadsheet (.xlsx) in ORCA format. The ORCA template contains a Guidance tab which is referred to ensure consistency.

Processing Notes Tab created

When a new dataset is imported into ORCA, Processing Notes are maintained throughout the import process specific to that dataset. This ensures that important processing information is remembered and applied consistently by different members of the team. This is a new process that we are currently introducing.

d) Manual Validation

A member of the NBIS team then carries out the following checks and standardisations:

- Verify species name nomenclature.
- Standardise recorder and determiner name formats.
- Ensure confidential site details are appropriately hidden.
- Check and format grid references and dates.
- Standardise record type, sample type, abundance qualifiers, and ecologically important behaviours.
- Remove any personal information or potentially libellous comments.
- Transfer as much relevant information as possible from the notes into the appropriate ORCA data fields.

Where records fail manual validation checks or require changes, NBIS will contact the recorder.

e) Cataloguing

All datasets received by NBIS are logged in an Excel catalogue, with each dataset assigned a unique dataset number for accurate tracking and reference. At this stage, each individual record within the dataset is also assigned a unique record ID.

f) Import and automated validation

Records in ORCA are organised into datasets (e.g. Norfolk Bat Survey, Ecological Consultant Records), each containing a series of modules representing successive imports (typically annual). When a new dataset is required, it is created at this stage, and relevant metadata is added to ORCA.

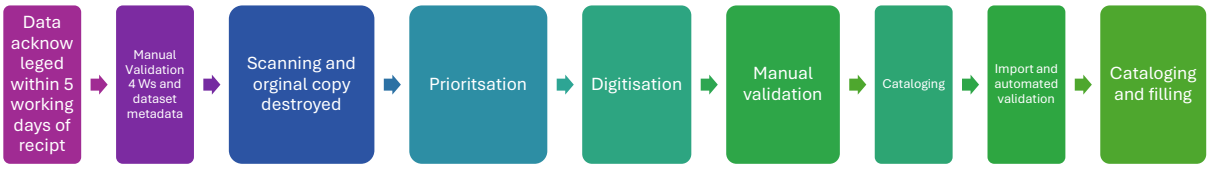
Before import, final checks are completed using a predefined checklist. During import, validation processes are applied, including checks on date, grid reference, taxon (e.g. known distribution or seasonality), and internal rules (e.g. text limits, accepted terms). When records fail validation NBIS will contact the recorder or county recorder to seek further information or expertise.

After import, a post-import check is completed in ORCA, and processing notes are updated accordingly.

g) Cataloguing and filling

Once the records are imported, the post import catalogue fields are completed. This includes the number of rejected records and the reason(s) for rejecting them. If records were rejected, the file name of the records rejected spreadsheet is added. The total number of records imported, date imported and who processed and imported the data are added.
The records spreadsheet is filed in the 'Data In' folder as imported.

3.2.3.2 Recent paper records for species data import and validation



a) Data received and acknowledged

Records are sent to the NBIS by post or in person, we aim to acknowledge all records using contact information provided within 5 working days. Please note that postal delivery times may vary, and it can take a while for items to reach us.

b) Manual Validation "4Ws"

All submitted records are checked to ensure they include the minimum required information—the four W's (What, Where, When, Who). If details are missing or unclear, NBIS will contact the recorder for clarification, including on restrictions, confidentiality, or licensing. For discrete datasets, further information such as metadata and licensing terms is often required, and a data sharing agreement may be appropriate.

c) Scanning and original copy destroyed

Paper records scanned and saved in the NBIS SharePoint folders. Paper copy destroyed using confidential waste disposal at Norfolk County Council.

d) Prioritisation

See data prioritisation policy above.

e) Digitisation

Species data is entered onto an Excel spreadsheet (.xlsx) in ORCA format. The ORCA template contains a Guidance tab which is referred to ensure consistency.

Processing Notes Tab created

When a new dataset is imported into ORCA, Processing Notes are maintained throughout the import process specific to that dataset. This ensures that important processing information is remembered and applied consistently by different members of the team. This is a new process that we are currently introducing.

h) Manual Validation

A member of the NBIS team then carries out the following checks and standardisations:

- Verify species name nomenclature.
- Standardise recorder and determiner name formats.
- Ensure confidential site details are appropriately hidden.
- Check and format grid references and dates.
- Standardise record type, sample type, abundance qualifiers, and ecologically important behaviours.
- Remove any personal information or potentially libellous comments.
- Transfer as much relevant information as possible from the notes into the appropriate ORCA data fields.

Where records fail manual validation checks or require changes to the record, NBIS will contact the recorder.

i) Cataloguing

All datasets received by NBIS are logged in an Excel catalogue, with each dataset assigned a unique dataset number for accurate tracking and reference. At this stage, each individual record within the dataset is also assigned a unique record ID.

j) Import and automated validation

Records in ORCA are organised into datasets (e.g. Norfolk Bat Survey, Ecological Consultant Records), each containing a series of modules representing successive imports (typically annual). When a new dataset is required, it is created at this stage, and relevant metadata is added to ORCA.

Before import, final checks are completed using a predefined checklist. During import, validation processes are applied, including checks on date, grid reference, taxon (e.g. known distribution or seasonality), and internal rules (e.g. text limits, accepted terms). When records fail validation NBIS will contact the recorder or county recorder to seek further information or expertise.

Where records fail automated validation check or require changes to the record, NBIS will contact the recorder.

After import, a post-import check is completed in ORCA, and processing notes are updated accordingly.

k) Cataloguing and filling

Once the records are imported, the post import catalogue fields are completed. This includes the number of rejected records and the reason(s) for rejecting them. If records were rejected, the file name of the records rejected spreadsheet is added. The total number of records imported, date imported and who processed and imported the data are added. The spreadsheet is filed in the 'Data In' folder as imported.

3.2.4 Verification policy

Verification is the process of checking that the species identification is correct. It is undertaken by County Recorders or local referees, usually annually, with support from national experts on an ad hoc basis. Most records are accepted as 'considered correct' based on species traits, habitat, range, and the recorder's experience. For more complex cases, verifiers may request additional evidence, such as photographs or specimens. Verification procedures can vary depending on the taxonomic group and the difficulty of identification. Recorders can support the verification process by assigning a Confidence Level to each record they submit, which can assist Verifiers in determining the appropriate Verification Level.

The details for the verification process for each taxonomic area of interest are detailed in data exchange agreements with verifiers.

Only verified records are provided in data enquiries.

Disclaimer

NBIS does all it can to validate and verify species records, although we cannot accept responsibility for the accuracy of the data we provide. This is detailed in the NBIS terms and conditions.

NBIS policy is to only share validated and verified species data.

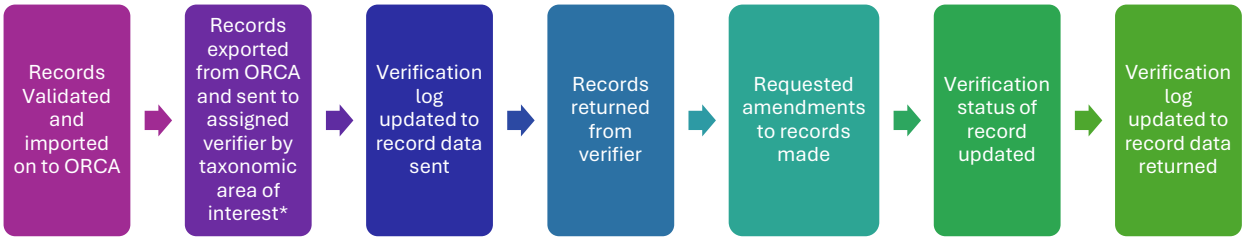
3.2.4.1 Prioritisation of records for verification

Given the volume of records received, especially for some taxonomic areas, there is a needed to prioritise records for verification to support verifiers in delivering their role.

ORCA can assign a level of identification difficulty to each species. We will be working with County Recorders as part of data exchange agreement conversations to assess the suitability of this information as a prioritisation tool.

Where agreed in data exchange agreements with verifiers, records meeting certain criteria could be considered automatically verified, such as, the recorder was accompanied by a known determiner during the observation, the observer has sufficient taxonomic expertise to verify their own records, the record was confirmed by a local or national expert, or a relevant natural history group or society.

3.2.5 Verification process



*This will be in line with agreed verification processes for each detailed in DEAs. This data will include the recorder name

a) Records validated and imported to ORCA

Please refer to the procedures outlined in Sections 3.2.3.1 and 3.2.3.2 for further details.

b) Records exported from ORCA and sent to assigned verifier by taxonomic area of interest.

Records requiring verification for each relevant taxonomic group are identified and filtered using the ORCA Records Module. These records are then exported in a format specifically designed to support the verification process. Records are sent for verification in accordance with the details outlined in each verifier's data exchange agreement.

c) Verification log updated to record data sent

The detail of the export is documented in the verification log.

d) Records returned from verifier

Verified records are returned from the verifier, with the verification fields completed.

e) Requested amendments to records made.

Any requested amendments to individual records are carried out manually by NBIS staff, with all actions documented in the staff comments field.

f) Verification status of record updated

The records are then filtered out again in ORCA and batch updated with the verifications provided by verifiers using the verify tool in ORCA.

g) Verification log updated to record data returned

The details of the returned records are documented in the verification log.

3.2.6 Updating or deleting records

NBIS has procedures in place for updating and removing records when necessary.

- **Updating Records:** If requested by the original recorder or verifier, records can be amended to correct errors. Approval for changes is documented and stored with the record in ORCA.
- **Removing Records:** If requested by the original recorder or verifier, digital records can be deleted from the ORCA database, and all scanned copies of paper records also

deleted. An excel spreadsheet of removed dataset and/or records is retained by NBIS for reference.

3.2.7 Audit trail

The ORCA data management system tracks all changes to a record, proving an audit trail of data management activities.

3.3. Sites data

Sites may be designated either nationally or as Local Sites through the County Wildlife Site (CWS) Partnership.

3.3.1 National and International sites

The boundaries and citations for national and international sites are downloaded from the Natural England Open Data Geoportal. The downloaded layer is cut down to those sites which intersect the Norfolk boundary, and any multipart polygons combined as these are not permitted in ORCA. These datasets are updated twice a year in April and October (or when we are made aware that there has been a change to a site in Norfolk).

National and international sites from the Natural England Open Data Geoportal do not require further verification as they are definitive datasets that should not be altered.

3.3.2 Local sites

The policy framework for Local Site designation is set out in the CWS Handbook, which outlines the criteria and procedures that must be followed. This handbook should be referred to for full guidance on designation standards and expectations.

In terms of process, NBIS supports the implementation of this policy by:

- Validating proposed site boundaries.
- Checking the accuracy and completeness of submitted information.
- Documenting and listing any changes for each site.
- Compiling the Local Sites Update on an annual basis.

A Sites Panel, which is a subset of the CWS Partnership, is responsible for reviewing and validating proposals for new sites or changes to existing boundaries. Once reviewed, the full CWS Partnership meets to formally endorse and approve site designations, thereby completing the designation process in line with the policy.

3.4 Habitat data

3.4.1 National datasets

NBIS accesses and utilises national habitat datasets or datasets that infer habitats (including site data and non-biodiversity data such as historic mapping, soils, geology, landscape history and designations), where appropriate, to compliment the local habitat data it holds. These data are only used when of known quality, where any issues are known and can be worked around and the metadata is clear, particularly where there are gaps in current local data completeness, accuracy or currency. These data are updated when appropriate and are mostly used for spatial analysis, as opposed to collation of combined habitat maps.

When a new habitat dataset arrives, it is converted to Shapefile format if necessary. Where appropriate, it is then checked against existing sources of habitat information including aerial photographs, other local habitat survey data and the Natural England Priority Habitat Inventories. Habitat data received is checked for currency, accuracy and methodology; the author's digitisation skills are also confirmed if not known. Where habitat data is sent to us from a reputable source and known to be of good quality it is used as it is, with any caveats accompanying the data considered and stored with the data files.

3.4.2 Local datasets

NBIS creates habitat datasets in several different ways. This includes digitisation using aerial photos, historic mapping, flood extent, coastal tidal levels and other evidence, digitising/translating existing survey data and a combination of the both using a rules-based process. As part of contracted work with Natural England we have created datasets that have been used in the National Priority Habitat Data Inventory, often as part of regional project work with other Local Environmental Record Centres in the East. These data are validated and have been included on the national Priority Habitat Data Inventory. Newly received Phase 1 or UKHabs data is digitised and validated against aerial photos and other evidence.

Local data is processed in the same way as national data but is stored separately and managed according to both national data standards and local requirements. Where resources allow, NBIS is now translating all its habitat data into UKHabs codes, where possible. This will allow for coordination with planning datasets through Biodiversity Net Gain requirements, and the inclusion of data in the Local Nature Recovery Strategy (LNRS) Habitat Map, Areas of Particular Importance for Biodiversity (APIB) mapping, Areas that Could Become of Particular Importance for Biodiversity (ACB) mapping and related analyses.

3.4.3 Integrated datasets – Norfolk Habitat Map

As part of the LNRS process the statutory requirement of creating a Habitat Map has included input and local data from NBIS. Once finalised, this dataset will be used in NBIS's data enquiries

to replace the existing remotely sensed Norfolk Living Map, to allow for consistency with the LNRS process and to improve partnership working. There remains much to do to improve this baseline dataset, including integrating elements of the Norfolk Living Map and other high quality local datasets, all translated to UKhabs and all with integrated and improved metadata. This is a work in progress, but one that NBIS, through the LNRS Biodiversity and Mapping Theme Working Group, is taking forward.

3.5 Data Quality

Metadata ("data that describes data") provides essential context for understanding and using environmental information responsibly. It helps users assess the limitations and appropriate applications of a dataset. NBIS is committed to supplying adequate metadata wherever possible to support effective data use.

3.5.1 Database metadata

NBIS maintains an electronic database metadata statement, updated annually, to document its data holdings. This database metadata statement is made accessible through My LERC and the NBIS website.

The database metadata statement describes the following:

a) Species data:

- **Temporal Coverage**: First and last dates recorded
- **Geographic Coverage**: Spatial distribution
- **Method of Data Capture**: Survey or observation method
- **Accuracy of Records**: Precision and confidence levels
- **Confidential Records**: Restricted data
- **Priority Species Records**: Legally or locally important species
- **Total Number of Records Held**
- **Negative Records**: Absence data
- **Record Resolution**: Spatial precision (e.g. 1km, 100m)
- **Record Currency**: How up to date the data is

This is described at a whole database and taxon group level.

Where NBIS is aware of additional records but does not hold custodianship of the data, we clearly indicate this and provide signposting to the data holder where possible. Local knowledge of species, datasets, and known data gaps covering taxon group, dataset, or geographic coverage, informs this process.

b) Sites data:

Details of the site boundary information held, it's currency, source, extent and any restrictions on use.

c) Habitat data:

Details of the habitat data held, it's currency, source, extent and any restrictions on use.

d) Other material held in the Norfolk Records Office:

Details of NBIS material held in the Norfolk Records Office are detailed in a publicly available catalogue.

For further details on data coverage, currency, accuracy and precision, see the NBIS metadata statement available on the website. A summary is provided below.

3.5.2 Dataset metadata

NBIS manages its data as discrete datasets, each containing records collected consistently for example in a specific survey. Metadata for most species, site, and habitat datasets is publicly accessible via My LERC, promoting transparency and accessibility, while metadata for other datasets is available on request. A full list of datasets can be found on our My LERC page here NBIS- Datasets.

Many older datasets lack metadata, as it was not standard practice to collect it at the time. This may affect data quality and will be clearly communicated to users. While retrospective metadata creation is ongoing, metadata for new datasets is now routinely captured when data is provided.

Standard metadata includes the data owner, collection dates, geographic coverage, and data access terms. We are currently reviewing this metadata collection process and considering online options.

3.6. Data storage

3.6.1 Electronic records

NBIS stores both raw and processed data on the Norfolk County Council SharePoint system, with access restricted. Original and processed versions of data imported into the ORCA database, along with associated processing notes, are retained in perpetuity. Data is filed by year received by NBIS on SharePoint.

3.6.2 Paper records

a) Current paper records

Paper records are catalogued, scanned, and then securely destroyed using Norfolk County Council's confidential waste disposal service. As a result, NBIS does not retain the original paper copy of records submitted.

b) Historical paper records

When data is important, rare or the only copy, paper records are committed to the Norfolk Records Office in line with their accession policy. This could include original surveys, notebooks or historical records. This may also include documents from eminent naturalists.

3.6.3 GIS files

Creating digital maps using QGIS is a key part of what NBIS offers. It helps people explore and understand biological data in a clear, visual way. We're currently updating how we manage and store our data to make sure it complies with GEMINI metadata standards, Norfolk County Council's data management policies and aligns with the GIS data management of the wider environment service.

This section will be updated once this has been completed.

Section 4: Data sharing and access policy

4.1 Levels of Data Access

NBIS provides access to the data it holds, subject to any conditions imposed on its use by suppliers, by the Data Protection Act 2018, Environmental Information Regulations 2004, Copyright and Intellectual Property Right law, or any other laws of the land that apply.

NBIS is unbiased in the supply of full resolution data, though there may be some circumstances in which NBIS needs to restrict access to all or part of a dataset:

- If release of data could pose a risk of damage to the environment or wildlife
- If the release of data may jeopardise its future supply
- If the data contains confidential information
- Where permission is restricted by the data supplier.

Where it is considered that the release of data needs to be restricted, data may be provided at a lesser resolution to that held on the ORCA database or may be withheld altogether.

4.1.1 Sensitive Records

NBIS manages sensitive species data in accordance with the NBN guidelines for England and additional advice from county recorders. Data owners may also request sensitive species restrictions. If these are not already covered by the restrictions in place, we would seek advice from county recorders and seek justification from the data owner. This is delivered through species-specific restrictions configured in ORCA. These restrictions aim to protect biodiversity by limiting the resolution at which certain species data can be shared.

When a data enquiry is run, the type of enquiry dictates whether sensitive species are shown at full or restricted resolution. Commercial users receive full-resolution data for internal use and blurred data for public reporting, while public users only receive blurred data. Some species, such as certain birds and bats, have specific resolution rules, including display at 100km square for highly sensitive records.

4.1.2 Confidential records

Confidential records are not provided as part of data requests, and we do not signpost to confidential record data owners. Confidential records are only used in analysis and project work for conservation purposes where the record itself is not released, and subject to the agreement of the data provider.

Confidential records are identified in ORCA using a confidential flag, which may include notes explaining the reason for confidentiality. If a site is confidential, it is withheld entirely. Confidentially overrides other types of restrictions such as blurring.

4.1.3 Personal data

NBIS complies with the Data Protection Act 2018, ensuring that all personal information is safeguarded against unauthorised or accidental access, use, disclosure, damage, loss, or

destruction. Recorder names are withheld from data requests apart from with County Recorders for verification purposes. Contact details are only shared when explicit permission has been granted by the recorder, with County Recorders or local experts for the purpose of verification. NBIS will comply with Data Protection Act 2018, which it is registered under through its host organisation Norfolk County Council.

4.1.4 Ecological Best Practice

NBIS provides data enquiry services in line with ecological and data legislation and best practice. All data requests must follow NBIS's ecological best practice standards and terms and conditions, as detailed in the documents NBIS Best Practice, Data and Ecological Standards and NBIS Terms and Conditions.

4.2 Requesting access to data

4.2.1 Submitting a data request

Data requests to NBIS are submitted through the My LERC platform. All users must register an account to access search packages and custom request options. When chargeable, standard package requests receive automatic quotes. For more complex or tailored needs, users may request a custom search via My LERC or by contacting NBIS directly. These must meet NBIS Best Practice, Data and Ecological Standards and are quoted individually.

NBIS is committed to delivering the East of England region[1] Standard Data Enquiry Service as a minimum. This includes the regional the cross-boundary procedure for data searches with adjoining LERCs within the region.

NBIS follows a clear procedure for data requests, outlined in how to flow diagram for data requests and enabled by the clear request process on My LERC.

NBIS makes data belonging to a data provider available to them upon request, ensuring transparency and access for contributors.

4.2.2 Prioritisation of Data Requests

NBIS processes data requests on a first-come, first-served basis.

4.2.3 Turnaround times

Details of turnaround times for quotes and receiving data are detailed in the "Accepting the quote" and "when will I receive my data search results" sections respectively of the My LERC Data request page.

[1] Bedfordshire & Luton Biodiversity Recording and Monitoring Centre; Cambridgeshire & Peterborough Environmental Records Centre; Hertfordshire Environmental Records Centre; Norfolk Biodiversity Information Service; Suffolk Biodiversity Information Service

4.2.4 Receiving data

Results are delivered by email with a link to eMapper for viewing. Further details are provided in the “what will I receive” section of the My LERC Data request page.

4.2.5 Data request charges

NBIS charges for data requests in accordance with our charging policy, which sets out our charges and when these apply.

4.3 Accessing and using data

4.3.1 Terms and conditions of use

All data is provided under the NBIS Terms and Conditions for Data Use, which protect data supplier rights, give data owners confidence that their data will be managed appropriately and ensure responsible use in line with NBN Data Exchange Principle 5.

When a data request is submitted through My LERC the data user agrees to NBIS’s Terms and Conditions on submission. For data request made outside of My LERC this is confirmed in writing in a data sharing agreement or contract.

4.3.3 Acknowledgement

NBIS is committed to respecting the rights of original data recorders and custodians. All records are managed in line with their wishes, including their right to control how data is used and shared. NBIS seeks permission where necessary and acknowledges contributors appropriately, following best practice, intellectual property rights, and national data ownership policies.

To support this, NBIS’s Terms and Conditions clearly define data ownership and outline the required acknowledgements for any ongoing use of the data. The NBIS terms and conditions (Pt 16) state that:

“Users must acknowledge in any publication, whether printed, electronic, internet-based or broadcast, based wholly or in part on NBIS data:

Biological records: “Biological records provided by Norfolk Biodiversity Information Service (NBIS), acting on behalf of the contributing biological recorders, whom whose rights are recognised”. Specific database acknowledgements should also be made when given and are provided as part of dataset metadata information on My LERC and in the excel output.

Sites or habitats data: "Data provided by Norfolk Biodiversity Information Service (NBIS)". Plus, the relevant copyright and licence acknowledgements, these are provided in the bottom left corner of eMapper outputs and will look similar to this 2022 version: "© Crown copyright and database rights 2022 OS 100019340. Open Government Licence. © Buglife, Plantlife (2020), RSPB (Licence), All Rights Reserved. Use subject to full licences."

4.3.4 Metadata

NBIS makes available sufficient metadata to allow biodiversity data users to assess the scope and potential uses of their information holdings. This metadata is available to view on the NBIS website. For further details see section 3.5.1.

4.4 Data exchange by NBIS

NBIS routinely exchanges data with other Local Environmental Record Centres (LERCs) within the eastern region and with statutory organisations. This collaboration supports the execution of statutory duties and enables the collation of regionally significant biodiversity datasets, strengthening environmental decision-making and conservation efforts.

The exchange of biological records between NBIS and key recording groups or individuals is vital to ensuring the availability of high-quality biodiversity data. These partnerships are supported through formal Data Exchange Agreements, which define the terms of collaboration and help maintain trust, data integrity, and mutual benefit in the sharing of records.

Section 5: Data security policy

5.1 NCC Systems

The NBIS office is based within Norfolk County Council headquarters and is not open to the public without staff accompaniment. All computers with ORCA database access are password-protected, and the ORCA database itself is also secured. Devices are locked when unattended.

All NBIS staff and volunteers must complete a Data Security e-learning course before accessing the Council's computer systems, with mandatory refresher training every two years.

5.2. ORCA Systems

NBIS uses the ORCA, eMapper, and My LERC systems provided by Cofnod under a contractual agreement. This agreement is supported by a statement of requirements and a Data Protection Impact Assessment (DPIA) and has been approved by Norfolk County Council ICT and Information Governance. As part of the contract, NBIS also has access to test versions of new ORCA modules developed by Cofnod to evaluate their suitability for our operations.

Records are kept on a password-protected, secure ORCA database which is maintained by Cofnod. The data is backed up to a cloud service every 15 minutes. The Cofnod system is maintained in accordance with their Disaster Recovery Plan.

5.3 Records security

5.3.1 Digital records

Digital records, including scanned documents and data received via email, are stored on SharePoint and backed up to the cloud. Copies of emails containing records are also saved in an NBIS folder on the Norfolk County Council SharePoint site, which are backed up nightly to ensure data security and continuity.

5.3.2 Paper records

Paper records once entered are scanned in and saved in an NBIS folder on the Norfolk County Council SharePoint to be backed up each night. This is particularly the case of handwritten data sheets of which no other copies may exist.

Paper copies of important datasets are kept securely in the Archive Centre at County Hall; documents, card indexes, diaries and other papers are kept labelled boxes and stored in the temperature-controlled storerooms, which is protected against fires etc. The NBIS archives are catalogued by the Norfolk Records Office and are publicly accessible by appointment. Any sensitive records held by the Norfolk Records Office are flagged as such and are exempt from public access for a stated time period. Any requests to view it come through NBIS.