

A YEAR IN REVIEW

ANNUAL REPORT 2014 - 2015



**TWENTY
FOURTEEN
-FIFTEEN**

...what a year it's been

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Andy Howard - www.andyhoward.co.uk

A YEAR IN REVIEW



“**Biological data collected and shared openly by the Network are central to the UK’s learning and understanding of its biodiversity and are critical to all decision-making about nature and the environment.**”

INTRODUCTION

The National Biodiversity Network is a membership organisation built on principles of collaboration and sharing.

Our vision is that:

“Biological data collected and shared openly by the Network are central to the UK’s learning and understanding of its biodiversity and are critical to all decision-making about nature and the environment.”

To achieve that vision the Network must deliver improvements to the recording, collection, verification, curation, aggregation, analysis and use of biological data in the UK.

The Network’s priority is to grow the national commitment to sharing biological data and information. Through this we will provide a comprehensive, unparalleled and authoritative understanding of our natural world and will use that knowledge effectively to educate and inform.

This review of 2014 – 2015 highlights work that has taken place over the last year to support the aims of the NBN Strategy 2010 – 2020, but with a forward look to what the new NBN Strategy 2015 – 2020 means for the Network, its members and for the critical need of good quality data to support conservation efforts across the UK.

This Annual Report is produced by the NBN Secretariat.

Phrases or terms “National Biodiversity Network”, “NBN Trust” and “NBN” all refer to the people and organisations that are members of the NBN Trust or share data via the Network. The Network employs a team to facilitate and coordinate its growth and development and that is referred to as the “Secretariat”.

We have five strategic aims, as set out in the NBN Strategy 2015 – 2020:

- *Record, collect, diversify, enhance and mobilise biological data:* **We will grow our capacity and capability to record and collect high quality biological data.**
- *Make biological data and information available to everyone:* **We will continue to collaborate to embed our collective data and knowledge creation at the heart of biodiversity learning and environmental decision-making.**
- *Captivate and engage people about wildlife:* **We will promote the natural world, the enjoyment and importance of observing nature and biological recording and the utility and power of our shared data.**
- *Provide the best biological information management infrastructure:* **We will ensure stability, security and usability for an increasingly mature data management infrastructure.**
- *Support the development of the NBN, its Board and its members:* **We will support and grow our Network as an indispensable partnership for nature and in the successful implementation of this strategy.**

CHAIRMAN'S REPORT



Michael Hassell

Our last twelve months have focused on extensive engagement across the Network. This has involved a review of our strategic direction, meeting with members and listening to their needs, and a user needs examination of our central data infrastructure. The landscape can change rapidly so horizon scanning and reviewing our direction are both necessary.

It is four years since we published our last Network Strategy and several drivers suggested it was time for a refresh. These included new staff, including a new CEO, new technological advances and opportunities and a rapidly changing environment for central and local government. It was timely to reflect on what has already been achieved and where we should go next. That process is largely complete thanks to the contributions of hundreds of people across the UK through attending workshops and providing feedback and advice. Our priority must now be to work together to implement that Strategy!

The extraordinary achievements of our members and the Network as a collaborative partnership should not be understated. That we have shared more than 100 million records nationally via the NBN Gateway is testament to the fact that there is a strong commitment for collaboration. In September 2014 the 100 millionth species observation was loaded to the NBN Gateway; it was Peter Kirby's record of the 2-Spot Ladybird at Wicken Fen! That moment may not have triggered a sudden realisation politically, or in the media, that biodiversity data can play a hugely important role in the future management and understanding of our environment, it is, however, a moment to savour - that our willingness to share is growing and the rate of sharing is accelerating. 15 million records were added to the NBN Gateway in the last 12 months, which represents a 15% annual increase.

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Our challenge now is to make sure that effort recording, collecting, checking and aggregating is not wasted and that we maximise how we use our shared knowledge.”

Our challenge now is to make sure that effort recording, collecting, checking and aggregating is not wasted and that we maximise how we use our shared knowledge. Making the most of the data, collected through the efforts of an army of expert volunteers and citizen scientists, should be another of our priorities.

This year many historic and legacy datasets held, up to now, in boxes of record cards, in filing cabinets and on old maps have been added to the NBN Gateway and made available for use regionally by Local Environmental Record Centres. This is data that was out of sight, but not out of mind, and certainly not without value. Our Secretariat has worked with seven Network members in England over six months to secure funding from the Cabinet Office and to digitise close to one million records. We plan to continue this mobilisation work across the entire UK for priority datasets. The longer this type of data is left, the higher the probability it will disappear, be thrown out, be forgotten or become incompatible with our data storage systems.

We have continued to grow the Network membership, and I am particularly pleased to see the addition of a new student category. Succession planning in all aspects of our Network is vital and that means engaging all demographics.

Our annual gathering for the NBN Conference was the largest ever with more than 170 people attending the Royal Society for what proved to be an excellent and inspiring event. Professor Chris Thomas delivered the Sir John Burnett Memorial Lecture, named in honour of the Trust's first chairman. The remainder of the programme was packed with presentations from David Goulson, Professor Ian Boyd and Peter Doherty (Programme Manager for the Atlas of Living Australia) amongst many others. We also invited eight students to attend the conference, sponsored by LUC Ltd and several universities throughout the UK. We hope to continue this sponsorship of students in future years.

There have continued to be changes within the NBN Board of Trustees and thanks go to departing members, Hugh Lucas and Paul Harding. Several board members have been engaged as champions for the new aims of our new Strategy and will have an increasingly important role in its implementation over the coming years. Looking to the future we plan to review the NBN Board management so we can ensure sound governance reflecting the full diversity of our partnership.

The NBN Finance and Management Committee was reconvened and has proved to be a valuable asset to the Network, giving quality advice to the Secretariat with a team led by Andrew Wood.

“
The need for collaboration has never been greater as we set about implementing our new Strategy and Action Plan.”

My thanks go to members of my board for their advice and input and to the Secretariat for their quality work and energy throughout this busy year. I would especially like to thank the small team at Joint Nature Conservation Committee that works with all data providers to ensure data is uploaded to the NBN Gateway in a timely fashion. They are behind the scenes, but playing an important role to help showcase the work of our members. Thanks also go to the Network's constituent members whose contribution to this national partnership is critically important and highly valued. Many of you have been engaged throughout the year in workshops, meetings and through questionnaires and rounds of consultation. That input has helped shape and define our new direction. The need for collaboration has never been greater as we set about implementing our new Strategy and Action Plan.

Michael Hassell

CHIEF EXECUTIVE'S REPORT



John Sawyer

This year has been a busy one for the National Biodiversity Network. We have grown in size with 50 new members including NGOs, companies and students joining our partnership.

Looking across the work of the Network family it is important to recognise the significant achievements of our constituent members. For a start there has continued to be an almost exponential growth in biological recording and data sharing. There are now at least 30,000 biological records being made each day in the UK largely by volunteers and citizen scientists keen to learn, document and share. Online recording platforms, such as iSpot, iRecord and Birdtrack, have grown and matured (with 6 million records added to BirdTrack). Data shared and aggregated nationally via the NBN Gateway has also grown by 15 million records (a 15% increase) in one year! During the year, the 10 millionth butterfly record was added to Butterfly Conservation's database for the national recording scheme, Butterflies for the New Millennium. Over 3.5 million of these records are publicly accessible via the NBN Gateway and work is underway with recorders and partner organisations to increase access. And more than 15 million records were submitted during the year to the British Trust for Ornithology's (BTO) range of online surveys and schemes (with a million of those being made via mobile applications). Our attention must now turn to ensuring that we match quantity with quality.

There has also been a maturing in our data recording. The Botanical Society of Britain and Ireland (BSBI) has launched a new national Atlas 2020 initiative, and BSBI, Centre for Ecology & Hydrology (CEH), Plantlife and Joint Nature Conservation Committee (JNCC)

have designed a new habitat-based scheme, the National Plant Monitoring Scheme to provide an annual indication of changes in plant abundance and diversity. The Wildlife Trusts, in partnership with the BTO, launched WildSurveys, a new framework and online recording system for detailed long-term monitoring projects. New analysis tools and techniques have been developed including Nature Near Me (by Tom August, CEH), and the QGIS TomBio plugin (by Richard Burkmar, Field Studies Council). Habitats have also received attention with Scottish Natural Heritage publishing their first EUNIS map of Scotland.

Training and education has grown with the Natural History Museum taking in the first of three cohorts of the next generation of Identification Trainers for the Future. The Field Studies Council (FSC) enrolled 143,562 learners on courses involving fieldwork, more than 80 of which are involved in the suite of courses offered by Manchester Metropolitan University, in partnership with the FSC, leading to biological recording qualifications.

Network members have also been heavily involved in strategy development including the National Forum for Biological Recording (developing a new strategic plan), the BTO (publishing a new five-year strategy including an objective to "share data, information and knowledge") and government agencies (developing a new Monitoring and Surveillance Strategy and new National Pollinator Strategy for England).

Use of our data has also grown. More than 731 million records were downloaded from the NBN Gateway in 2014. The Scottish Biodiversity Information Forum (SBIF) has published data use case studies entitled 'Making the most of our biodiversity data' and the State of Nature Partnership has been working on its second report. Day to day decisions about our environment have been informed by data collected and aggregated regionally by Local Environmental Record Centres (LERCs). A partnership led by the Bat Conservation Trust has begun development of an evidence-based planning tool for biodiversity. BTO has also launched the BTO Atlas "Mapstore" which allows free online access to all bird distribution maps published in BTO atlases from the 1960s to today.

Network engagement

A Network priority has been to engage with members, listen to needs, and build a spirit of teamwork amongst our NBN family. Collaboration and partnership are two words that have been used extensively throughout the life of the Network and yet we still have work to do to evolve as a true partnership. The power of our collective can be realised if we share a vision, share our resources and take joint ownership in the outcomes. Success for any one of our Network members is almost certainly good, but success for the partnership could have far reaching impacts on decision-making about UK environment, on reporting change in the state of our environment and on the ability for people to learn about the natural world. We need to move our Network beyond informal discussions and common interests to agreed actions and shared decision-making.

My team has travelled in excess of 80,000 miles to personally meet with more than 60 of our 136 members. If we have not yet visited you then expect a call. We have given more than 15 presentations, written more than 10 articles for NBN eNews and elsewhere. We have participated in conferences, workshops, events and meetings covering topics from invasive species, bats and the state of nature, to data deficits and ecology. We have engaged globally with colleagues at Swedish Lifewatch

It was also a year of celebration with the Biological Records Centre, the Scottish Wildlife Trust and the Rothamsted Insect Survey all celebrating 50 year anniversaries (1964 was clearly an important year).

The list goes on and apologies that I cannot include everyone's highlights.

My own team has also been busy. There have been three main strands to our Secretariat work programme:

- Network engagement
- Data mobilisation, aggregation and use
- NBN Strategy 2015-2020

and Artportalen, with the team at the Global Biodiversity Information Facility, and with teams in Australia, New Zealand and Spain. It is clear the issues we face are not unique and that we have much to collaborate over.

Finally, we published a new Communications Strategy for the Network. Core messages are that our shared data is critical for environmental decision-making, education, research, monitoring and nature conservation and that our Network would not exist without the support of the many organisations that contribute to it. The next year will see a significant growth in communication from our Network and about our work.

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Data mobilisation, aggregation and use

A core part of our new national Strategy is to mobilise existing biological data. There is as much data hidden in boxes and cabinets and on record cards as there is available via Local Environmental Records Centres and the NBN Gateway. The Secretariat team has worked with seven partners in England to digitise approximately a million species records and habitat polygons held in 20 historic datasets. Funded by the Cabinet Office, and informed by the Open Data User Group, these data are available on the NBN Gateway, and via data.gov, where they are fully open with a Creative Commons (CC0) license for onward, unrestricted reuse.

Data aggregation would be impossible were it not for the work of teams at the Joint Nature Conservation Committee and the Centre for Ecology & Hydrology who have played a significant role in ensuring data are uploaded quickly and efficiently and that the NBN Gateway is stable and accessible.

The Secretariat ran an NBN Gateway user needs analysis in 2014 to examine where improvements could be made. That review showed the UK has a complex technical

infrastructure for capturing, curating, analysing and disseminating biological data and information. The creation of the NBN Gateway and the aggregation of more than 110 million biological records is an extraordinary achievement and demonstrates the value of collaboration. Finally, we found there to be tremendous support within the Network for working to improve the data infrastructure, to share biological data and to help both data providers and users (see [NBN Gateway User and Technical Review 2015](#)).

To resolve many of the issues raised in the User and Technical review, the Secretariat team has met, and coordinated workshops, with staff from the Atlas of Living Australia. The aim was to investigate whether a similar platform could be built for the UK and whether it would meet our needs. That has resulted in the creation of a demo platform (called the UK Wildlife Portal, see <http://ala-demo.gbif.org>) and an accompanying spatial portal for data analysis and visualisation. These demonstration sites are now part of a business case for a new UK-wide approach to biodiversity data infrastructure in the UK. This work will continue in 2015-16.



“ We need to move our Network beyond informal discussions and common interests to agreed actions and shared decision-making. ”

NBN Strategy 2015-2020

Charged with the need to develop a new Network Strategy the Secretariat began an engagement programme to hear views about our future direction. This resulted in two questionnaires and nine workshops, facilitated with the help of Sarah Keast. The published summary of feedback from the Strategy questionnaire makes for interesting reading about the varying perspectives of issues faced by our Network (see [NBN Strategy Refresh 2014](#)). In general NBN members collaborate for the collective good of UK wildlife but we heard there was plenty of room for improvement in both the way the NBN partnership operates and in technical aspects of the NBN (notably the NBN Gateway). The majority of people, despite valuing the NBN, felt that it was not quite achieving its full potential.

In developing a new Strategy we asked members about our vision and found that our current version was not strongly supported. That led to change and a new vision which states that: *“Biological data collected and shared openly by the Network are central to the UK’s learning and understanding of its biodiversity and are critical to all decision-making about nature and the environment.”* This implies the need for our Network to ensure our data are of the highest quality and trusted and that the Network itself is indispensable for environmental decision-making in the UK.

We have attempted to clarify terms used within our Network so that communication is clear. The term Secretariat is used to describe staff employed by the Network, The NBN and NBN Trust are used to refer to all members and data providers combined. Meanwhile, the NBN Gateway is the national, online database that the Network uses to share biological data at a national level.

That Strategy development work has led to the development of the NBN Action Plan 2015-2020. The coming year will see roles and responsibilities for implementing this action plan shared across our Network. No one organisation can do everything so we will collaborate in order to secure resources and to implement the NBN’s national Strategy. There are exciting times ahead.

Finally, it has been a privilege for my team to work with the entire Network family this last year. The Secretariat will continue to support and promote the Network over the next twelve months and will continue to grow and strengthen the Network partnership.

“ No one organisation can do everything so we will collaborate in order to secure resources and to implement the NBN’s national Strategy. ”

NBN BY NUMBERS

30,000 +

Number of biological records made daily in the UK

136

Number of Network members

110 million

Number of records shared by Network members on the NBN Gateway at July 2015

15 million

Number of biological records shared in 2014-15

731 million

Number of biological records downloaded from the NBN Gateway during the year

90 million +

Number of biological records aggregated by Local Environmental Record Centres

3½

Number of staff employed in the Secretariat of the NBN Trust

19583

Number of planning data requests to Local Environmental Records Centres



**COMMITTED TO
COLLABORATION**

Two of the NBN's affiliate members report on their work as part of the NBN family.

ASSOCIATION OF LOCAL ENVIRONMENTAL RECORDS CENTRES

The Association of Local Environmental Records Centres (ALERC) is a community interest company representing 44 Local Environmental Records Centres (LERCs) across the UK. Each LERC covers a discrete county or region and balances the needs of a multitude of volunteer wildlife recorders and both national and local users of biodiversity and geodiversity information. The LERC network is crucial in relating the NBN's vision to recording and decision-making on the ground.

Constituted in 2009, ALERC has been developed over the past five years to represent the interests of LERCs and to promote standards and services in biodiversity and geodiversity data collation and provision. The Board of Directors of ALERC is made up of 13 LERC colleagues from around the country and a Company Secretary. Each LERC regional grouping has at least one ALERC director to ensure the Board is in good communication with all its members. The directors also hold individual portfolios of work areas, listed on the ALERC website www.alerc.org.uk. Other LERC staff also contribute to ALERC via working

groups to address some of these work areas. Current groups cover the ALERC website, accreditation, the conference, business development and data flow. Following the success of the ALERC national coordinator development post, funded by Defra and the NBN Trust 2012 – 2014, in advocating LERCs and making it much easier for national organisations to work with LERCs, the ALERC National Co-ordinator is currently funded by the ALERC membership. However this is not yet sustainable so ALERC's current priority is looking for additional funding to maintain this critical post.

ALERC facilitates communication and sharing best practice between LERCs by regional meetings, an internet forum, a newsletter and an annual conference in Birmingham. This year we were delighted to welcome the NBN Trust's new CEO, John Sawyer, whose thought-provoking talk on Building a National Network for Biodiversity and LERCs' roles as delivery nodes in the NBN family of people and projects was very well received according to the conference feedback.

“
The LERC network is crucial in relating the NBN's vision to recording and decision-making on the ground.



The ALERC National Coordinator and individual LERCs input into the NBN's 2015 – 2020 Strategy over the year, attending the workshops and responding to the written consultations. We are working with the NBN Trust staff and other NBN members, advising on projects such as a portal for inputting consultancy data and guidance for consultants on using biodiversity data. ALERC has also joined the Partnership for Biodiversity in Planning, a cross-industry partnership of 17 organisations representing the planning and conservation sectors, who are working together to simplify, streamline and improve the consideration of biodiversity in the planning process in a project funded by the Esmée Fairbairn Foundation.

Encouragingly, over the past five years LERCs have noted a continuing increase in data enquiries, particularly in relation to planning and development. Making it even easier for people to discover the relevant LERC to contact for information on any particular area has been a priority for investment this year. The “Find a LERC” page on the ALERC website can now be searched by grid reference, place name or post code and the LERC boundaries on the NBN Gateway have been updated.

NATURAL ENGLAND

Natural England has contributed to the workshops and consultations that have created the new NBN Strategy and we strongly support the vision that underpins this Strategy. We are keen to see a strong partnership of interested parties working to resolve issues such as open access and data verification. We are increasingly collaborating with our sister agencies across the UK to identify where our combined resources and influence can unlock some of the previously intractable issues that slow or prevent effective use of data.

In the last 12 months we have seen considerable change in both the NBN itself and the pressures on public funding. Natural England has developed the next generation of agri-environment funding and our experience exemplifies the dilemma over use of the NBN Gateway data. Through many years of investment and partnership with record centres and schemes, Natural England has enjoyed a high level of access to species data on the NBN Gateway, with access to over 50 million high resolution records; at least 500% more than any other agency. We should have been able to use this data to identify priorities and support delivery within the new Countryside Stewardship programme, but this was not the case. The rigour needed to satisfy the European regulations meant that data used to support this programme needs to be openly visible to ensure transparency in decisions, and additionally we needed confidence that the records are of known quality. Unfortunately, for much of the NBN Gateway data, neither condition is currently met and we have had to source data directly via schemes and societies who collate this data.

The example above emphasises the need for the NBN partnership to review current business models and traditional approaches if we are to improve the use of the valuable data, collected by tens of thousands of recorders, to improve and restore biodiversity. This will mean a fresh look at what information is needed both locally and nationally, and how best to work with the recording community to help us to build affordable and effective partnerships.

Natural England and other agencies have the potential to reverse the biodiversity declines, but only if we have access to good quality, up to date, species information.







We are committed to providing our staff with the species data and information necessary to support their operational and advisory roles; the NBN partnership is critical to the whole process. Our aim is to see all data, bar a few truly 'sensitive' species, openly available at resolution of capture, but we recognise the challenge this presents to many current working practices. Our priorities are to support more rapid capture of biological records and improve the quality of data through a sustainable process of verification and support to recorders. We sense that the NBN is now at a critical stage with real opportunities to build on the strong foundation of biological recording and embrace new approaches and technology.

**“
In the last
12 months
we have
seen
considerable
change in
both the
NBN itself
and the
pressures
on public
funding.
”**



**QUALITY DATA
TO MEET USER
NEEDS**

MAIN ACHIEVEMENTS

-  **460 species datasets loaded on to the NBN Gateway**
-  **15 million biological records added to the NBN Gateway**
-  **110 million biological records available on the NBN Gateway**
-  **91 organisations provided the records in this financial year**
-  **Successful bid to the Cabinet Office to digitise data**
-  **Creation of NBN Inventory of un-digitised datasets**

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...opening up data for use in creative and innovative ways, will inspire and encourage a new generation of biological recorders to continue our rich tradition of nature observation.

INTRODUCTION

High quality, comprehensive biological data are required to inform decisions about the protection and conservation of our rich and varied species and habitats.

The central focus of the National Biodiversity Network is to capture these data and make appropriate datasets available to those who need access to them. Together, the NBN has achieved considerable advances in mobilising and sharing species and habitat data. However, taxonomic and geographic gaps do exist in our current data holdings despite the NBN Gateway now boasting over 110 million records at a national level and Local Environmental Records Centres holding approximately 90 million records locally and regionally.

The amount of “legacy” or historic data held in un-digitised formats throughout the Network is unknown, and it is not unreasonable to assume

that this could be at least twice as much as are currently digitised and available. There is a pressing need to identify, and mobilise, these data, especially in light of the recently published Biodiversity Auditing POSTnote which recognised the need to undertake biodiversity audits to ensure appropriate, focused conservation measures, maximising resources and having a complete overview of the biodiversity within a given area.

Many projects were established in 2014 to contribute towards the target of increasing the supply of good quality biological records to meet user needs as detailed below and on the next few pages.

100 MILLION RECORDS HELP CREATE ONE OF THE LARGEST WILDLIFE DATABASES IN THE WORLD

On the 8th September 2014 the NBN Gateway, which launched just a decade ago, reached its 100 millionth record, making it one of the largest wildlife databases in the world.

If you have followed the progress of the NBN over the years, you will know that this online resource has grown rapidly, from its prototype beginnings when 100,000 records were available in the late 1990s, to 20 million records in 2006, 50 million in 2010 and, in September 2014, to a staggering 100 million species records from across the United Kingdom.

The 100 millionth species record was *Adalia bipunctata* (2-spot ladybird) and was part of a dataset of more than 17,000 records from the National Trust’s Wimpole Estate in Cambridgeshire. The species was recorded by Peter Kirby.

The upload of the 100 million records encouraged us to look at some of the interesting facts about the NBN Gateway, which as of September 2014 were:

- There are c. 44,000 species with records on the NBN Gateway and 27,000 species with no records.
- The most observations are for the butterfly Meadow Brown (*Maniola jurtina*) with 839,866 records.
- One of the oldest records on the NBN Gateway is of Red Deer (*Cervus elaphus*) in 1512 from Cumbria Biodiversity Data Centre vertebrate species observations for Cumbria for the period 1512 to 2011

Without the many biological recorders and data providers this milestone could not have been reached, so a huge thank you goes to everyone who has contributed to this across the NBN.

INCREASING RECORDS AND USE OF THE NBN GATEWAY

460 species datasets were loaded over the year, adding an additional 15 million biological records and contributing to 80% of the current 57,000 taxa on the NBN Gateway for which data is held.

This number of datasets represented an increase of 10% in the total number of datasets loaded during the year, continuing the trend in the increasing number of datasets submitted to the NBN Gateway and taking the total number of records on the NBN Gateway past 100 million to 110 million biological records.

This year's records were provided by 91 organisations within 296 datasets. The organisations included 48 local environmental record centres across England, Wales, Scotland and Northern Ireland, 18 national and local schemes and societies, 17 non-governmental organisations and four statutory nature conservation bodies. Records were also submitted by one environmental consultancy, a museum and two research organisations. A third of the new or updated datasets have been made available through the NBN Gateway by the contributing organisations at full public resolution, with the majority of the remaining being made available to the public at restricted resolution. 10% of the datasets provided last year are not publicly accessible through the NBN Gateway.

In addition to the update of marine species datasets supplied by Marine Biological Association, Marine Conservation Society and Conchological Society of Great Britain and Ireland, this year the NBN Gateway also incorporated the updated Marine Species of the British Isles and Adjacent Seas checklist, as provided through the UK Species Inventory, into its species dictionary and updated the UK marine protected areas. These areas including the current Marine Conservation Zones, recommended Marine Conservation Zones and Scottish Nature Conservation Marine Protected Areas, as well as Special Areas of Conservation and Special Protected Areas in Great Britain and Northern Ireland, can be visualised through the NBN Interactive Mapping Tool and used to generate a report of species records held

on the NBN Gateway for each individual marine site.

The datasets that were added or updated on the NBN Gateway last year contributed to 297 million out of the total 731 million records that were downloaded through the NBN Gateway throughout the year. Examples of some of these 291 datasets include datasets from Local Environmental Records Centres' datasets, such as the Suffolk Biological Records Centre, and non-governmental organisations' datasets, for example National Trust, providing records for a wide range of species across a number of taxonomic groups, to datasets from schemes and societies, such as The Mammal Society and British Dragonfly Society that provided records for a narrower range of species within specific taxonomic groups. Additional examples of datasets made available to download through the NBN Gateway this year are the River Macrophyte Database, provided by the statutory nature conservation bodies, containing a collation of river macrophyte records produced from a comprehensive national survey of British rivers and a number of datasets contributed from Indicia online recording implementations and iRecord. The iRecord datasets include a range of online recording sites that target the recording of non-native species, such as the Signal Crayfish, *Pacifastacus leniusculus* and Zebra Mussel, *Dreissena polymorpha*.

2014-2015 saw an increasing number of species datasets submitted and loaded onto the NBN Gateway. These datasets contribute to the increasing resource of biological records made available through the NBN Gateway, by contributing organisations, which are used for a wide range of purposes including personal interest, educational purposes, research and scientific analysis and statutory work by nature conservation bodies.



“
10% of the datasets provided last year are not publicly accessible through the NBN Gateway.”

NBN DATA CAPTURE INITIATIVE

2014 saw the NBN Trust successfully bid for funding from the Cabinet Office to digitise biological data across England. The project was boosted further by additional funds at the end of the financial year.

Datasets from Bedfordshire and Luton Biological Recording Centre, Essex Wildlife Trust, Marine Biological Association, Hertfordshire Environmental Record Centre, Northamptonshire Biodiversity Record Centre, Norfolk Biodiversity Information Service and the North West Fungus Group were mobilised and made available through the NBN Gateway and data.gov.uk. These datasets are at full capture resolution and open to any use.

The Secretariat was also approached to write a case study for the data.gov.uk website on the Release of Data Project as well as to produce an update for the Open Data User Group on the importance of biodiversity data and the future direction of the NBN.

The Release of Data Fund facilitated the NBN to mobilise close to a million records. Unlocking the full potential of these records held in 20 datasets, allows the data to be used to tackle questions independent of the original purpose of their collection, safeguard the datasets from destruction and ensure that they are put to their best use to justify the efforts and resources used to collect them. Coupled with this, opening up data for use in creative and innovative ways, will inspire and encourage a new generation of biological recorders to continue our rich tradition of nature observation.

Through this project the NBN has learnt much about mobilising historic data and the challenges that arise.

The following datasets were mobilised and are available on the NBN Gateway:

Data Provider	Dataset title	Available on the NBN Gateway or data.gov.uk?	Number of records
Bedfordshire and Luton Biological Recording Centre	Orthoptera Data for Bedfordshire	https://data.nbn.org.uk/Datasets/GA001385	1,445
Bedfordshire and Luton Biological Recording Centre	Mollusc records for Bedfordshire (non-sensitive)	https://data.nbn.org.uk/Datasets/GA001404	15,587
Bedfordshire and Luton Biological Recording Centre	Mollusc records for Bedfordshire (sensitive)	https://data.nbn.org.uk/Datasets/GA001403	8
Essex Wildlife Trust	Finchingfield Brook historic river corridor surveys	https://data.nbn.org.uk/Datasets/GA001386	761
Essex Wildlife Trust	River Blackwater historic river corridor surveys	https://data.nbn.org.uk/Datasets/GA001413	3,863
Essex Wildlife Trust	River Pant historic river corridor surveys	https://data.nbn.org.uk/Datasets/GA001389	8,497
Hertfordshire Environmental Record Centre	Hertfordshire Grassland Survey	https://data.nbn.org.uk/Datasets/GA001395	19,523
Marine Biological Association	North East Atlantic Crab Atlas	Pending	11,200
Marine Biological Association	North Wales Marine Fauna Atlas	Pending	5,750

Data Provider	Dataset title	Available on the NBN Gateway or data.gov.uk?	Number of records
Marine Biological Association	Rare Fish Database	Pending	2,149
Marine Biological Association	Plymouth Marine Fauna Survey	Pending	10,560
Norfolk Biodiversity Information Service	Norfolk County Wildlife Sites (botanical records)	http://data.gov.uk/publisher/norfolk-biodiversity-information-service	79,914
Norfolk Biodiversity Information Service	Norfolk County Wildlife Sites (other notable species)	http://data.gov.uk/publisher/norfolk-biodiversity-information-service	2,848
Norfolk Biodiversity Information Service	Norfolk County Wildlife Sites (habitat polygons)	http://data.gov.uk/publisher/norfolk-biodiversity-information-service	12,901
Norfolk Biodiversity Information Service	Norfolk Phase 1 Habitat Map (habitat polygons)	http://data.gov.uk/publisher/norfolk-biodiversity-information-service	59,400
Northamptonshire Biodiversity Record Centre	County Bird Records (50,000 records)	http://data.gov.uk/dataset/northamptonshire-county-bird-records-1981-1999-main	45,000
Northamptonshire Biodiversity Record Centre	County Bird Records (150,000 records)	http://data.gov.uk/dataset/northamptonshire-county-bird-records-1981-1999-main	140,000
Northamptonshire Biodiversity Record Centre	Northampton Natural History Society Bird Records	http://data.gov.uk/dataset/nhnsarchivebirdrecords	20,000
Northamptonshire Biodiversity Record Centre	Butterfly Conservation Records	http://data.gov.uk/dataset/northantsbutterflyrecords	7,591
Northamptonshire Biodiversity Record Centre	Tony Drane Beetle Records (part a)	http://data.gov.uk/dataset/tonydranebeetlerecords-part01	6,849
Northamptonshire Biodiversity Record Centre	Tony Drane Beetle Records (part b)	http://data.gov.uk/dataset/tonydranebeetlerecords-part02	6,000
Northamptonshire Biodiversity Record Centre	1980's BSBI Churchyard Survey	http://data.gov.uk/dataset/northantschurchyards-floweringplantrecords	12,676
Northamptonshire Biodiversity Record Centre	Recent Records for Northamptonshire	http://data.gov.uk/dataset/nbrc-recentrecords-archive	4,000
Northamptonshire Biodiversity Record Centre	Additional County Bird Records	http://data.gov.uk/dataset/northantsbirdrecords1981-1999-subsiary-dataset	45,500
Northwest Fungus Group	Pat Livermore's Fungus Records	https://data.nbn.org.uk/Datasets/GA001405	8,695

“The Release of Data Fund facilitated the NBN to mobilise close to a million records.

NBN INVENTORY OF UN-DIGITISED DATASETS

Through highlighting the significant volumes of data held by NBN members in undigitised formats we can build a strong and robust case for investment in mobilising and digitising these data. The NBN Trust will bid for funding as opportunities arise to help mobilise historic data. This may be data in boxes of field maps and recording forms, photographs, specimen collections, reports, recording cards or natural history notebooks in offices or homes.

In February 2015 the NBN Trust released a form (<http://bit.ly/1uESeIY>) to capture information on data holdings across the NBN. This information will allow the NBN to assess how many datasets

require digitisation across the Network and help us to secure future funding to mobilise this valuable information. Although just outside the reporting period for this document, it is staggering to note that by 21st April 2015, 25 datasets containing approximately 9,300,000 records had been submitted.

The project was advertised throughout social media and NBN eNews and individual emails were sent to partners who had expressed interest in the project through the Strategy consultation. The project will remain live throughout 2015.

RELEASING HIDDEN DATA

When NBN Gateway 5 was released in 2013, new access controls were introduced to allow any data that could be viewed to be downloaded. Concerns from some NBN data providers that users could download whole datasets resulted in some making their data temporarily invisible.

At the start of 2014, 106 datasets, from 40 organisations were unavailable for public view of access on the NBN Gateway. The Secretariat liaised with these NBN data providers throughout the year to negotiate increased visibility and accessibility. The following data providers are now in the process of making their datasets more visible, or are reviewing their datasets to assess if they can be made more readily available for use: Buckinghamshire and Milton Keynes Environmental Records Centre, Butterfly Conservation, Cambridgeshire & Peterborough Environmental Records Centre, Derbyshire Wildlife Trust, Dorset Bird Club, Dorset Environmental Records Centre, Fife Nature Records Centre, Greenspace Information for Greater London, Hebridean Whale and Dolphin Trust, North East Scotland Biological Records Centre, RSPB, Somerset Environmental Records Centre, The Wildlife Information Centre.

29 datasets have been made visible, and a further 24 datasets are in the process of being made visible (where sensitive species allow). A remaining 53 datasets (6.2%) of the 853 datasets on the NBN Gateway remain hidden from view. Many of these datasets remain hidden for good reasons, as they may contain information about highly sensitive species, whose locality data must be protected. Work will continue throughout 2015 to increase visibility of data shared across the Network.

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Work will continue throughout 2015 to increase visibility of data shared across the Network.



SIMPLIFYING ONLINE DATA MANAGEMENT – THE CONSULTANTS PORTAL

The Chartered Institute of Ecology and Environmental Management (CIEEM) Code of Professional Conduct states that members shall “wherever possible, make scientific data collected during the course of their professional duties available to others such as records centres.” Sharing ecological survey data, however, is not always straightforward – there can be issues around client permission, verification, data formats, and there can be a time and cost implication.

A Consultants Portal (www.consultantsportal.uk) has been created to make it easier for consultants and other biodiversity professionals to manage and share their species data online. The Portal is connected to the Biological Records Centre’s community warehouse so that taxon records can be validated and verified and loaded onto the NBN Gateway efficiently and quickly. Records shared via this Portal will then be transferred to the NBN Gateway so that they can be re-used by national recording schemes and local environmental record centres to support research, education, conservation and decision-making. No extra work is needed from consultants as the data are made available automatically.

Key features of the Portal include:

- Data entry forms designed to suit specific survey methodologies.
- Data entry in the field (via smartphone or tablet) or in the office.
- The ability to set a data release date for each project as agreed with the client.
- A range of data download options.
- The ability to tag records as ‘sensitive’ to restrict their availability to only approved users.

A steering group has overseen development of the Consultants Portal to ensure that the system fulfils consultants’ requirements and makes their work easier. The steering group members represented both large and small consultancies with specialism in a range of habitats and species. They began by describing the data they collect and the formats in which they present it to clients and provided initial ideas on features they would like to see in a data management system. A specification was drawn up based on their suggestions and used to develop this new site.

The focus in 2014 was building and testing functionality of the Portal with a user group. It continues to be developed by the NBN Secretariat, CIEEM, the Biological Records Centre and the Association of Local Environmental Records Centres. The Portal already has 66 registered users who have uploaded 497 records. A project manager has now been appointed and a formal launch is anticipated in Autumn 2015 and we expect to see a significant increase in data sharing by ecological consultants in the UK.



BUILDING OUR SKILLS

MAIN ACHIEVEMENTS

- 
Training courses and demonstrations of NBN Gateway and Consultants Portal given around the uk
- 
Atlas of Living Australia meetings successfully held
- 
Business case for a UK implementation of the Australia system developed

“

The aim is to foster discussion and learning and inspire others to get involved, either through sharing their data, or by using data held on the NBN Gateway.

INTRODUCTION

There are many benefits of sharing biological data and educating people about these is a growth area as we implement the new NBN Strategy and NBN Communications Strategy in 2015. Training is also vital if people are to derive real benefits from the systems we have all worked so hard to develop. The projects established in 2014 to contribute towards this aim are highlighted on the next few pages.

ATLAS OF LIVING AUSTRALIA MEETINGS, SEMINARS AND WORKSHOPS

The National Biodiversity Network was privileged to have Peter Doherty (Programme Manager for the Atlas of Living Australia) in the UK for a week in November 2014.

Peter came to be guest speaker at the NBN conference, to attend NBN Gateway workshops and to speak at seminars across England and Scotland for Centre for Ecology & Hydrology, Joint Nature Conservation Committee, Scottish Environment Protection Agency and Scottish Natural Heritage.

The Atlas of Living Australia is a world leader in biodiversity information infrastructure. Close to A\$50 million worth of investment has delivered a platform that has transformed how biological data are stored and visualised. That platform is built on open source code with multiple implementations delivering a range of products and services in Australia. One service is the Monitoring, Evaluation, Reporting and Improvement Tool (MERIT) that allows recipients of government grants to record and upload data about the progress of their projects. This is an advanced version of the UK Biodiversity Action Reporting System.

All the data within the Atlas is publicly accessible via an open interface (API). This allows third parties to leverage the platform to build their own applications. A good example of which is Questabird, an outdoor adventure game where players compete by photographing birds in the wild and so document Australia's biodiversity. This was developed by a separate company and is now providing data back to the Atlas.

The Atlas of Living Australia infrastructure has been used recently to create a biodiversity portal in Spain, France and a demonstration site in New Zealand.

This visit inspired the UK audience to think differently about how data are stored and disseminated. Indeed, Peter's visit, workshops and seminars has led to the establishment of a business case for a UK implementation of the Australian atlas system.

HANDLING AND USING BIODIVERSITY DATA COURSE

In March 2015 the NBN Secretariat ran a two day introductory course on handling and using biodiversity data as part of the Heritage Lottery funded Identification Trainers for the Future Programme.

This course was designed to give students an introduction to data management and equip them with skills and tools to collect and handle high quality data. Structuring the course around the NBN's Data Flow Pathway (see page 57), the students learnt the importance of each stage in creating robust data flows through which quality data can pass.

The theoretical aspects of the course covered the transition of recording to long term knowledge and wisdom, identifying what a biological record is and the key components it must contain. The students explored where data can be found, and what formats data are held in across the UK. A short history of biological recording, background to the formation of the NBN and the need and benefits of aggregating and sharing data were also delivered. The students learnt some best practice tips for data and document management such as naming conventions, version control and folder hierarchies. The importance of data quality, including validation and verification, was a key topic running through the course both in the theoretical and practical aspects.

Alongside the theoretical aspects of data management the course also covered a variety of practical techniques used across the Network to ensure high quality data result from each stage of the Data Flow Pathway. The students learnt how to use the NBN Record Cleaner Rule Sets and the UK Species Inventory and learnt a little about rNBN and its application in data analysis. Other key aspects of the course covered thinking about data management at the start of a project. This included designing a recording form and data entry system in parallel to ensure transcription of data is efficient and good quality. Finally, students learnt where to find data in the UK and how to use sites such as the NBN Gateway and GBIF to discover, explore and download data.

At the start of the course the students discussed a time that they had collected and managed data, which was in most instances their undergraduate dissertation. It was great to hear the students talking at the end of the second day about how they would manage the data from their dissertations better if they were able to go back and redo these projects. We look forward to hearing how the students progress throughout their year and grow and improve in their data management skills and they are providing regular updates on their work in NBN eNews.

CONSULTANTS PORTAL TRAINING

Training in using the Consultants Portal was given both remotely and in person to a number of organisations and individuals in 2014. This included demonstrations at the NBN Conference and annual CIEEM conference in Edinburgh in 2014.

NBN GATEWAY TRAINING

NBN Gateway demonstrations were given at a range of conferences and events including:

- EcoBuild 2015
- Bat Conservation Trust Annual Conference
- Digital Conservation Conference
- Oral presentation and workshop at Spatial Ecology Conference
- CIEEM Annual Conference

USE OF NBN GATEWAY DATA - CASE STUDIES

Since early 2015, the NBN Secretariat has been developing a series of case studies to tell the story of how data are used via the NBN Gateway. The aim is to foster discussion and learning and inspire others to get involved, either through sharing their data, or by using data held on the NBN Gateway.

A template was developed to capture some basic details about the project: a short description, the benefits, challenges and opportunities that arose, the data used and information on any data collected through the project.





The case studies will:

- Demonstrate the value of sharing data via the NBN Gateway
- Provide tangible examples of ways that data from the NBN Gateway can be used, and the types of data available
- Demonstrate the journey of biodiversity data, from collection, quality assurance, collation, dissemination and use.
- Offer data providers information about the ways in which their data have been used
- Expand the business case for capturing and mobilising data

The case studies will be published through the NBN website with links to the relevant data provider websites and their project details. The case studies will also be promoted through various social media channels to gain further support.

PROVIDING THE TOOLS

MAIN ACHIEVEMENTS

-  **NBN Gateway and NBN website review undertaken**
-  **NBN Gateway needs analysis undertaken**
-  **NBN Gateway User Group established**
-  **Taxon-matching tool developed for UK Species Inventory**

“

Most data are not shared and more work is needed by all biological data custodians to provide a collective view of UK biodiversity.

INTRODUCTION

The NBN Gateway is the main tool for data sharing across the NBN at a national level. It has been upgraded and the system enhanced over the last few years, but is it delivering what users want or need?

NBN GATEWAY USER GROUP

The NBN Trust established a NBN Gateway User Group in 2014. This team of volunteers from around the UK represents the requirements of NBN Gateway data providers and data users and aims to help improve user experiences. The team is providing advice to the NBN on a range of NBN Gateway issues and held its first meeting in November 2014.

Members of the NBN Gateway User Group have a leadership role in NBN Gateway user interface reviews and needs analysis and will:

- Help improve communication about the NBN Gateway to a wider community of data providers and users;
- Provide input to ongoing development and improvement of the NBN Gateway;
- Develop, share and expand the NBN Toolbox idea of resources for loading, downloading and visualising biological data and information.
- Help test NBN Gateway functionality including new developments (before being released to the public);
- Act as an early warning system for outages, breakages and errors and report issues;
- Act as 'expert' advisors to assist with forum discussions.

“

This team of volunteers from around the UK represents the requirements of NBN Gateway data providers and data users and aims to help improve user experiences.

NBN GATEWAY TECHNICAL AND USER REVIEW

Between July and December 2014 the NBN Trust undertook a technical and user review to determine if the NBN Gateway is fit for purpose. That review had three main components:

1. NBN Gateway User Review Questionnaire

This questionnaire provided an opportunity for any NBN member or NBN Gateway user to give feedback. That feedback included why people access the NBN Gateway, what people find most useful and what could be done to improve the system. The questionnaire received 150 responses from England, Northern Ireland, Scotland, Wales, Isle of Man, Republic of Ireland and Brussels which represented the views of 83 organisations and 55 individuals.

2. Critical review of the NBN Gateway by consultants

The NBN Trust employed website and technical design consultants to review the user experience of the NBN Gateway interface to determine whether it is fit for purpose. That included a review of the NBN Gateway, the Interactive Mapping Tool and the NBN Website.

3. NBN Gateway Needs Analysis workshops

The NBN Trust ran two NBN Gateway needs analysis workshops at the Natural History Museum on Thursday 20 November 2014.

The aim of these was to determine the objectives for the NBN Gateway, to identify issues, to assess alternative options for a user interface and to evaluate the needs of different user types.

Conclusions from those three pieces of work are as follows:

1. There is a complex technical infrastructure in the UK for capturing, curating, analysing and disseminating biological data and information.
2. The creation of the NBN Gateway and the aggregation of more than 100 million biological records is an extraordinary achievement and demonstrates the value of collaboration.
3. There is a diverse array of users of NBN systems and meeting all their needs will be a challenge and will undoubtedly require compromise. It is unlikely that all

needs of all users can be met by one system. There are many potential audiences that are not being reached at present.

4. The existing data infrastructure is not fit for purpose and alternative solutions or significant work is required to ensure the needs of both data providers and users are met.
5. There is tremendous support within the National Biodiversity Network to collaborate to improve the data infrastructure, to share biological data and to help both data providers and users.
6. The UK Species Inventory is an important system that needs investment and promotion.
7. Supporting data providers will require:
 - Ensuring data flow processes are simple and efficient.
 - Ensuring data access request processes are simplified and streamlined.
 - Greater promotion of data providers.
 - Support for storage of diverse data types (images and habitat, environmental layers etc.)
8. Supporting data users will require:
 - Improved user interface.
 - Improved security and stability of the infrastructure.
 - Improved tools and systems for viewing, accessing, analysing and downloading data.
9. Most data are not shared and more work is needed by all biological data custodians to provide a collective view of UK biodiversity.

The establishment of a UK implementation of the Atlas of Living Australia could see a whole new look for the NBN Gateway. The technical review helped determine the kind of user experience that people want and the technical infrastructure that people need.

“ There is a diverse array of users of NBN systems and meeting all their needs will be a challenge and will undoubtedly require compromise. ”



NBN GATEWAY DEVELOPMENT WORK IN 2014-15

The major focus of development this year was to capitalise on the release of NBN Gateway 5 and to secure the foundations of the system for further growth and development. Given last year's issues around database troubles, system stability became a priority over new features. Measures were taken to improve speed of data loading, access request changes, and general administrative tasks.

Due to a limited budget for both hosting and support, whilst total uptime has been improved, there have been a number of periods of reduced service and no availability. The NBN Gateway is hosted within a Centre for Ecology & Hydrology (CEH) server room, and is subject to their necessary maintenance periods. This, combined with one server failure, accounts for the majority of the year's downtime. Hosting for the NBN Gateway will be reviewed in 2015, with a view to agreeing a suitable hosting site to ensure greater stability for future years.

The developers have not been idle, however. The two major technical developments of the year require careful roll out and engagement with the user base. Development regarding record status and whether a record has been verified as being correct, dubious or wrong has thrown up a lot of competing issues around determining what status to give each record. No simple schema for assignment appears to satisfy the needs of a majority of users without causing significant potential issues for other groups of users. The mechanisms developed will be used as a basis for discussion by the NBN Gateway User Group and the wider community during 2015. It is unlikely that the development will be released in its current form.

Secondly, a self-service method for data providers to upload data to the NBN Gateway has been completed. This mechanism is being tested before roll out to a number of data providers in 2015. In the long term this should reduce ongoing data loading delays. The support that the Technical Liaison team currently provides will remain to support those

who find the new system difficult to use and for those whose systems cannot output in the required format. This feature was heavily requested at the NBN Conference by a number of data providers and we are glad to provide it.

This year saw a major change in Web Services. By the time this report is published the old NBN Gateway 4 services will have been discontinued. These services only used data from over two years ago, and were kept on to support legacy users. The systems supporting these services have reached the end of life and have now been retired.

A set of documentation for the NBN Gateway 5 REST services has been released. This includes a suite of worked examples that covers all the major functionality available to end users. These services allow interested parties to embed maps and data from the NBN Gateway into their tools and websites.

The NBN Gateway is currently solely funded by Government Agencies from across the UK, and with support from CEH. It has a small budget, and runs on a best effort basis. In these times of decreasing budgets the NBN Gateway will need to take steps to reduce costs in order to retain the core functionality and its role in distributing species data to organisations in the UK.

As mentioned elsewhere in this Report, there will be a trial of a new system (the Atlas of Living UK) in 2015. The NBN Gateway will supply data to this, therefore continuing as the key tool for data collation and dissemination into the future.

THE UK SPECIES INVENTORY

It has been an exciting year for the UK Species Inventory (UKSI), with the development of the NBN Strategy and the NBN Gateway workshops and User Review setting the scene for future work.

The UK Species Inventory underpins the NBN Gateway and there are plans for a web-based administration interface to replace the existing Access one. This work is in its early conceptual stages and more will be developed as ideas for the NBN Gateway are discussed and developed further.




One new feature that has proved very popular is the taxon-matching tool. You can simply upload a spreadsheet of names and the website returns the spreadsheet with extra data for each name such as the best name match from the UKSI, its Taxon Version Key (TVK), output group, rank and recommended name etc. The matching process performs a sequence of tests (name+author, just name, name with a different ending, and subgenus) and reports back the best match that it can make. This has turned out to be an incredibly useful tool for making external datasets compatible with the NBN Gateway and for sense-checking new checklists before importation.

“

A self-service method for data providers to upload data to the NBN Gateway has been completed... In the long term this should reduce ongoing data loading delays.

DEVELOPING STANDARDS

MAIN ACHIEVEMENTS

-  **NBN Gateway Terms & Conditions Review workshop held**
-  **Data Flow Pathway developed**
-  **NBN species metadata form updated**

“
The Data Flow Pathway highlights six key stages that all data must pass through to ensure the highest data quality.

INTRODUCTION

Development of standards and best practice is fundamental to the success of the NBN. One of the targets for the first five years of the 2010 – 2020 Strategy was to “Review existing standards to ensure they are still fit for purpose”.

As part of the NBN Strategy 2015-2020 process, many of the standards were reviewed to assess this and details on this work can be found below.

NBN GATEWAY TERMS AND CONDITIONS REVIEW WORKSHOP

Over the last year members of the NBN have been reflecting on nearly 15 years of experience in sharing data and information about wildlife. As part of this and given the strategic and technical review, it has been timely to reassess the NBN Gateway Terms and Conditions which govern onward sharing and use of NBN data.

When the NBN Gateway was introduced sharing data over the internet was a very new and untested media, so people were understandably cautious. To allay concerns, two types of controls were introduced to cover conditions of using NBN Gateway data. The first was a set of physical controls, allowing providers the ability to restrict the level of access to their own data. In parallel, work was undertaken to manage the transfer of rights and permissions associated with data collated and shared by NBN partners. The latter culminated in a model agreement between data providers and data users via the NBN Gateway; the Gateway Terms & Conditions.

The NBN is now entering a second phase of development with a focus on improving access to data and visualisation, application and use of data on the NBN Gateway. In practice, physical sets of controls have been favoured by providers over the legal Terms and Conditions as a means of restricting onward use. NBN Gateway Access Controls have just undergone a major revision, introducing a finer level of flexibility and control.

A review of the NBN Terms and Conditions for use was required because;

- It is the NBN ambition for greater openness to as much data as possible and the current Terms and Conditions conflict with this ambition.
- The current Terms and Conditions are complicated for users to understand and interpret
- The mechanism for deviation from the standard terms is complicated and impractical to follow.
- There is no mechanism for data providers to grant specific users more open permission to use their data.
- The current Terms and Conditions are being regularly broken, both by users authorised by data providers but with no mechanism to affirm it, and potentially by others using ambiguity as justification.



This review was undertaken to achieve the following objectives:

- To ensure that the Terms & Conditions reflect, and are compatible with, the ambitions of the NBN Strategy and the NBN Vision which is *“Biological data collected and shared openly by the Network are central to the UK’s learning and understanding of its biodiversity and are critical to all decision-making about nature and the environment.”*
- To introduce a clear mechanism allowing data providers to grant specific users more open permission to use data
- To simplify the NBN Terms and Conditions to aid interpretation and adherence by users
- To develop a way of supporting people to understand the Terms & Conditions.

Two workshops were held at the Natural History Museum on Thursday 20 November 2014. They brought together many key partners of the Network and conclusions were that:

- Open data is better for conservation action, especially when it is taken into account that the restrictive nature of the current terms and conditions are preventing Local Environmental Records Centres using the data as their role has a commercial aspect. The NBN Trust had already met with the Open Data Institute to discuss guidance on working towards a more open data model.
- There are challenges ahead to changing public attitude towards openness and the younger generations who have always been surrounded by the open data culture are potentially in a position to help lead on this and communicate to those who are unsure. The local nodes of the NBN are also in a strong position to engage with recorders with regards to any new approach and this will be the key for implementation and establishing a revolution.

- Through using invasive non-native species data, and historic records (an agreed threshold) as a starting point to making data available/open we can test the mechanics and perceptions of any changes.
- Standard licenses attached to our data holdings will clarify use, establish innovation, serendipity and prompt the development of valuable products.
- There was discussion that there are three options with regards to alternative approaches, in addition to the suggested models above
- T&C Legal Framework
- Code of practise/code of conduct
- Licenses (Creative Commons - CC0) + Code of Conduct

There was agreement that a series of licenses would be a suitable option moving forward and some felt strongly that a single CC0 open license, with an associated code of conduct would be suitable to ensure responsible use of data (within the law). This model would not have access controls except sensitive flags on the data and would reduce the control needed over publication, commercial use and research use.

Wider consultation is needed to ensure that both recorders and collators are heard and work will continue in this area throughout 2015.

UPDATED NBN SPECIES METADATA FORM

The NBN Species metadata form was updated (version 3.3) and changes made to the importer to ensure compatibility. The metadata form and data provider pack were also updated and are available on the NBN Website.

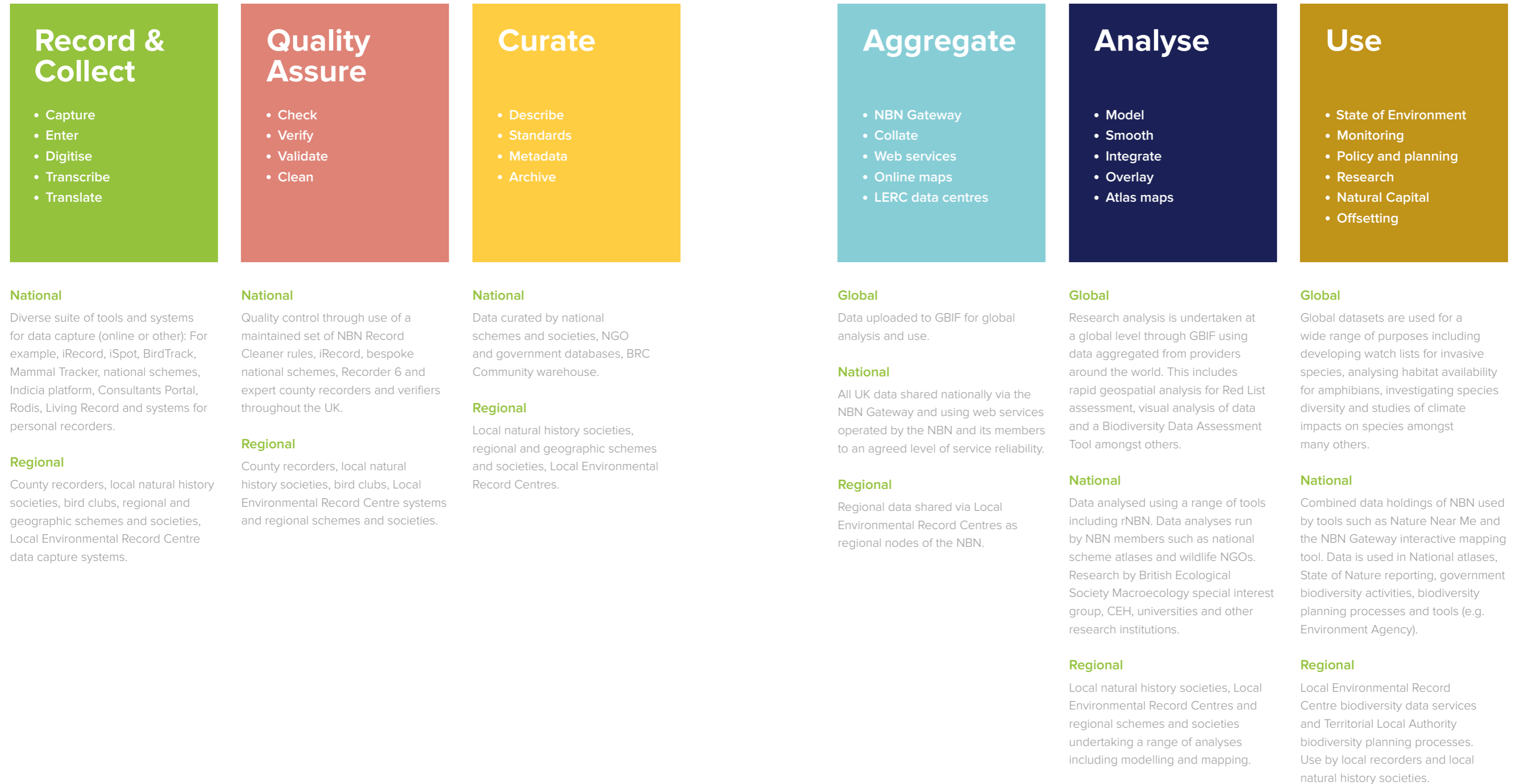
The main change as a result of this is in the NBN Gateway Data Provider Agreement (section F) as it now covers both new and updated datasets. This means that data providers will no longer need to submit the metadata form for updated datasets (unless they wish to update the metadata as part of the import process or change the public access level). This in turn has made it easier for data providers submitting datasets to the NBN Gateway and for the technical team loading datasets on to the NBN Gateway.

“

The NBN is now entering a second phase of development with a focus on improving access to data and visualisation, application and use of data on the NBN Gateway.

DATA FLOW PATHWAY

A Data Flow Pathway was developed by the NBN Secretariat to create a simpler data flow model for the Network. The Data Flow Pathway highlights six key stages that all data must pass through to ensure the highest data quality. These stages are Record and Collect, Quality Assure, Curate, Aggregate, Analyse and Use. This Pathway is included in the NBN Strategy 2015-2020 and will form the basis of future discussions around data flows in the UK.



A STRONGER VOICE

MAIN ACHIEVEMENTS

-  **Meetings held with more than 60 members**
-  **15 presentations given at conferences across the UK**
-  **Increasing social media activity and followers**
-  **Increasing number of members**

“
The website remains a vital communication tool for the NBN and it will be getting a major update in 2015 to take account of new technologies.

INTRODUCTION

The NBN Strategic work during 2014-15 highlighted the need for a new Communications Strategy. The previous Strategy had been in place for a number of years and needed to be brought in line with the new overall strategic aims and objectives and so the review work for this began in summer 2014. A draft Communications Strategy was consulted on at the beginning of 2015 and was published in March 2015. That Strategy sets five objectives and explains how the Secretariat will achieve them. It is concentrating on five target audiences in the first six months and has just six key messages.

Through the new Strategy the Secretariat will be working closely with NBN members to achieve its aims.

MEETING YOU

The Secretariat held meetings with more than 60 members, gave 15 presentations and demonstrations at various conferences across the UK, including:

- Association of Local Environmental Records Centres Conference
- Scottish Biodiversity Information Forum Meeting
- Data Deficits workshop
- UK-EOF Invasive non-native conference
- Planning for a Greener SW Scotland Conference
- Bat Conservation Trust
- CeDAR Conference in Northern Ireland
- Norfolk Biodiversity Information Service Regional Recorders Workshop
- Freshwater Recorders Annual Workshop

Those meetings were key to the ongoing discussions about NBN work that are important to members and which identify and address situations where help is needed. This form of communication will continue in the future.

COMMUNICATING - ON WITH THE OLD AND IN WITH THE NEW

Over the last year, we have continued to issue the monthly NBN eNews and it continues to be a key tool for publishing news, project updates and events from across the Network.

The quality of the stories submitted for inclusion is excellent and the number of items per month has steadily increased, which is testament to the importance members of the Network put on this major vehicle for communicating with each other.

As eNews links directly to the NBN website, so the number and currency of news stories on the website has increased over the last year. The website remains a vital communication tool for the NBN and it will be getting a major update in 2015 to take account of new technologies, which will make it mobile friendly, and most importantly to satisfy user needs as outlined in the review undertaken by Cerulean.

The Network has improved its social media presence, but more needs to be done on this, so there will be a more structured approach to posts, tweets and shares in 2015.

We will also be taking a more focused approach to sponsorship in 2015 and will offer a host of packages to allow organisations to show their support of the NBN depending on available budgets. We will be refreshing the membership scheme and we will be doing more to promote our members and the work they do through features on the website and in eNews.

In short there will be a number of activities brought about by the new Communications Strategy, which will enthuse you about being part of the NBN.

Social media activity continues to increase, with the number of active participants as follows:


Facebook



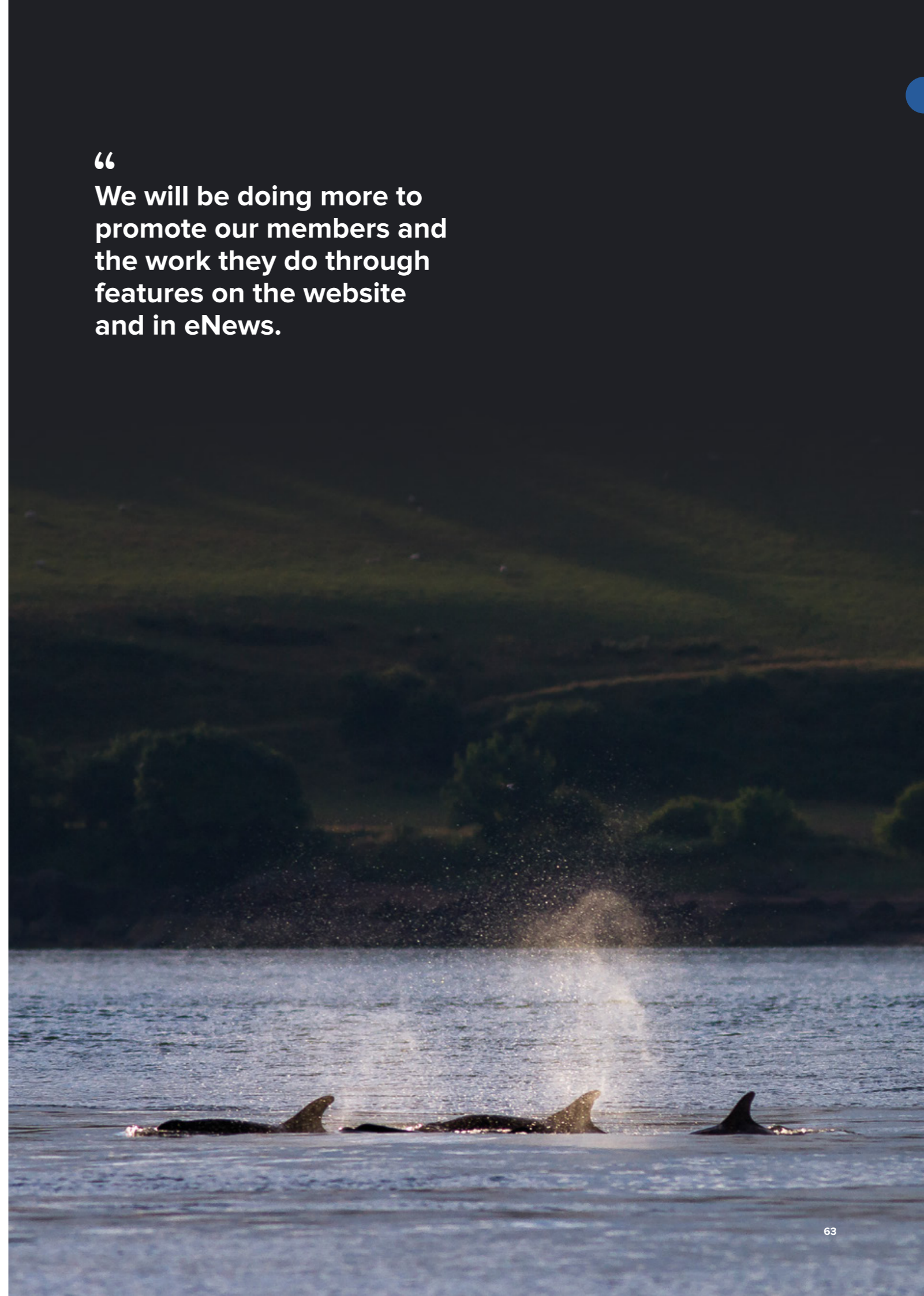

Twitter




LinkedIn



“
We will be doing more to promote our members and the work they do through features on the website and in eNews.



FINANCIAL REPORT

NATIONAL BIODIVERSITY NETWORK TRUST

Statement of Financial Activities (incorporating the income and expenditure account) for the year to 31 March 2015.

	Notes	Total Funds 2015 (£)	Total Funds 2014 (£)
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Incoming Resources:

Incoming resources from generating funds

	Notes	Total Funds 2015 (£)	Total Funds 2014 (£)
Voluntary income	2	450605	143630
Investment income	3	324	712
Other incoming resources	4	2827887	2058827
Total Incoming Resources		3278816	2203169

Resources Expended:

Costs of generating funds

	Notes	Total Funds 2015 (£)	Total Funds 2014 (£)
Costs of generating voluntary income	5	-140573	-115884
Charitable activities	6/7	-3138052	-2127905
Governance costs	8	-5245	-6590
Total Resources Expended		-3283870	-2250379

Net outgoing resources for the year / net expenditure for the year	-5054	-47210
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Reconciliation of funds:

Total funds brought forward	157081	204291
Total funds carried forward	152027	157081

	Notes	Total Funds 2015 (£)	Total Funds 2014 (£)
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Fixed Assets:

Tangible Assets	(10)	2438	3170
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Current Assets:

Debtors and prepayments	(11)	174799	96835
Cash at bank and in hand		176473	90803
Total		351272	187638

Creditors:

Amounts falling due within one year	(12)	201683	-33727
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Net Current Assets		149589	153911
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Total Assets less Current Liabilities		152027	157081
--	--	---------------	---------------

Net Assets		152027	157081
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Funds:

Unrestricted income funds	152027	157081
Total funds	152027	157081

The Trust received donated services and facilities, mainly in the form of staff, contributing to Trust objectives. The member organisations provided services costed by themselves, using criteria provided by Trustees as follows:

	Total Funds 2015 (£)	Total Funds 2014 (£)
Environment Agency	6278	6278
Natural History Museum	42226	42226
Scottish Natural Heritage	50500	48000
Joint Nature Conservation Committee	1115000	1124475
Centre for Ecology and Hydrology	766162	740791
Natural England	638155	587497
British Trust for Ornithology	7413	10640

	Total Funds 2015 (£)	Total Funds 2014 (£)
DEFRA/Biod Services Ltd	0	126646
British Ecology Society	1500	740
National Forum for Biological Recording	0	750
Natural Resources Wales	194500	194500
Other	137	0
Total funds	2821871	2882543

NOTES

Statement of Financial Activities (incorporating the income and expenditure account) for the year to 31 March 2015

1. Accounting policies

Basis of accounting

The financial statements have been prepared under the historical cost convention and in accordance with applicable United Kingdom accounting standards and the requirements of the Statement of Recommended Practice 'Accounting and Reporting by Charities' issued in March 2005 (SORP2005).

Cash flow statement

The Trustees have taken advantage of the exemption in Financial Reporting Standard No 1 (revised) from including a cash flow statement in the financial statements on the grounds that the company is small.

Fixed assets

All fixed assets are initially recorded at cost.

	Unrestricted Funds (£)	Total Funds 2015 (£)	Total Funds 2014 (£)
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2. Voluntary income

Donations and grants (Cabinet Office in 2015)	248624	248624 *	500
Subscriptions (Incl. Affiliates and others)	201981	201981	143130
Total	450605	450605	143630

* This was provided by the Cabinet Office, Release of Data Fund, see page 31

3. Investment income

Bank interest receivable	324	324	712
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4. Other incoming resources

Miscellaneous income	6017	6017	5075
Donated services and facilities	2821870	2821870	2053752
Total	2827887	2827887	2058827

	Unrestricted Funds (£)	Total Funds 2015 (£)	Total Funds 2014 (£)
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5. Costs of generating voluntary income

Staff Costs	73893	73893	53548
Insurance	728	728	2319
Printing, postage and stationery	7115	7115	7211
Secretariat office and sundry expenses	20468	20468	17041
Meeting and conference expenses	19900	19900	27658
Legal and consultancy fees	1441	1441	2025
Travelling expenses	14592	14592	2912
Depreciation	2436	2436	3170
Total	140573	140573	115884

6. Costs of charitable activities by fund type

Cost of activities in furtherance of charity's objectives	3129707	3129707	2118275
Web site development and promotion	8345	8345	9630
Total	3138052	3138052	2127905

7. Cost of charitable activities by activity type

	Donated services and facilities (£)	Project staff costs (£)	Website dev't & promotion (£)	Total Funds 2015 (£)	Total Funds 2014 (£)
Cost of activities in furtherance of charity's objectives	2821870	307837	8345	3138052	2127905

	Unrestricted Funds (£)	Total Funds 2015 (£)	Total Funds 2014 (£)
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8. Governance costs

Accountancy fees	1890	1890	1890
Trustees' travel and subsistence	3355	3355	4700
Total	5245	5245	6590

9. Staff costs and emoluments

Wages and salaries		2929235	2138881
Social security costs		9267	5342
Total		2938502	2144223

The trust received donated services and facilities, mainly in the form of staff, contributing to Trust objectives. The member organisations provided services costed by themselves, using criteria provided by Trustees. The company pays pension contributions on behalf of its employees and seconded staff. These contributions are included within staff costs.

Particulars of employees:

The average number of employees during the year, calculated on the basis of full-time equivalents were as follows:

	2015	2014
Number of research staff - employed	1	2
Number of administrative staff	2	2
Number of management staff - seconded/employed	1	1

No employee received remuneration of more than £60,000 during the year (2014-2015).

10. Tangible fixed assets

Cost

	Equipment (£)
Brought forward 1.4.14	6340
Additions	1704
Total at 31.3.15	8044

Depreciation

	Equipment (£)
Brought forward 1.4.14	3170
Charge in the year	2436
Total	5606

Net book value

	Equipment (£)
At 31 March 2015	2438
At 31 March 2014	3170

11. Debtors

	2015	2014
Trade debtors	168707	91336
Prepayments	6092	5499
Total	174799	96835

12. Creditors: Amounts falling due within one year

	2015	2014
Trade creditors	1762	4078
Accruals	199921	29649
Total	201683	33727

13. Unrestricted income funds

	Balance 1 April 2015 (£)	Outgoing Resources (£)	Balance 31 March 2015 (£)
General Fund	157081	-5054	152027

14. Related party transactions

The Trust has been billed by some of its members for various services supplied as follows:

	2015	2014
Wildlife & Natural History	0	5000
Scottish Natural Heritage	4243	25457
MBA	22974	0

The accounts have been prepared under the historical cost convention and in accordance with applicable United Kingdom accounting standards and the requirements of the Statement of Recommended Practice 'Accounting and Reporting by Charities' issued in March 2005 (SORP 2005).

Each year, for the purposes of the accounts, every support organisation produces a schedule of costs incurred in carrying out these services. These services are costed by the support organisation on the basis of an equitable sharing of its costs, or, where such figures are not readily available, at standard charge-out rates. These figures are shown as intangible income under "Tangible fixed assets" (see note 10). We received intangible income, mainly in the form of staff resources and associated costs expended on NBN projects.

Reserves Policy

The Board of Trustees, through its Finance and Management Committee (FMC), has established a policy whereby a 'free reserve' of £100,000 is maintained. At this level, the FMC of the National Biodiversity Network Trust considers that it would be able to continue the current activities of the charity should there be a significant drop in funding or loss of in kind contributions as identified by the risk register.

Risk register

The FMC has reviewed the major risks to the charity, and has systems designed to manage them. The main internal financial risks are minimised through procedures for delegation and appropriate authorisation of all transactions and projects and by ensuring consistent quality for all the charity's operations. The FMC reviews the risks at every meeting. Risks related to external funding agreements have their own risk management policy.

BIOD SERVICES LTD

BioD Services Ltd was set up to help the Trust develop the Network through contractual work and was incorporated as a company limited by shares on 13 March, 2001.

The Articles of Association allow the company to transfer profits or income to the NBN Trust as gift aid. For 2014-2015 there were no profits from BioD Services to be donated over to the NBN Trust as gift aid.

The fees billed are mainly attributable to the one principal activity of the company and consist of invoiced sales of services to Defra. BioD Services Ltd also sells Ordnance Survey map tiles for use in Recorder, the data entry and exchange tool, on behalf of the NBN Trust. The financial information below shows the total income against expenditure.

More detailed financial statements are available for either the NBN Trust accounts or BioD Services Ltd. Please contact the NBN Trust's Business Administrator on 0115 924 7132 for your copy.

Detailed Trading and Profit and Loss Account for the year ended 31 March 2015.

Details	2015	2014	Details	2015	2014
Fees billed and project contribution	0	120517	Bank Interest	7	28
Less Projects Costs:			Less Overheads:		
NBN Gateway	0	0	Website costs (Defra requirements)	19	174
DEFRA project costs	10078	91738	Postage, Stationery and Printing	1074	155
Staff Salary	0	54649	Travel and subsistence	288	7720
General Sub Contract Work	0	6600	Meeting Expenses	0	0
Total	10078	152987	Accountancy	500	950
Surplus on Projects	10057	-32470	Legal and professional	60	73
Profit on OS Map Tiles UK CD Sets:			Bank charges	250	190
Sales	31	56	Sundry	39	329
Less Cost of Sales	0	19	Depreciation	207	385
Total	31	37	Total	2387	10891
Surplus for the year			12444	-43333	

ADMINISTRATIVE INFORMATION

ADMINISTRATIVE INFORMATION

The National Biodiversity Network Trust is a charitable company limited by guarantee, incorporated on 3rd April 2000 and registered as a charity on 25th August 2000.

The company was set up under a Memorandum of Association, which established the objectives and powers of the charitable company and is governed under its Articles of Association.

Under those articles, one third of the members of the Board of Trustees must retire at the AGM and may be re-appointed. The Board of Trustees is made up of fifteen people nominated from each member organisation. They meet three times a year and their AGM is in July. No Trustee may serve more than ten years in office in total without the approval of the members given by ordinary resolution.

DIRECTORS / TRUSTEES

for the year ended 31st March 2015

Professor Michael Hassell CBE FRS
Chairman

Dr Mark Diamond

Mr Andrew Wood *Treasurer*

Dr James Munford (retired 1.5.14)

Dr John Sawyer

Mr Paul Harding MBE

Mr Hugh Lucas

Mr Paul Rose

Mr Ian Owens

Dr Andrew Clements

Richard Pywell

Teresa Frost

Mr Roddy Fairley

Mr T Webb

Mr J D Bowker

Ms H Wilkinson

Ms J Ashworth

OTHER INFORMATION

Chairman Professor Michael Hassell CBE FRS

Chief Executive Mr J Sawyer appointed 1.5.14

Secretary Mr J Sawyer appointed 1.5.14

Registered office NBN Trust
Broadway Business Centre
32a Stoney Street
Lace Market
Nottingham NG1 1LL

Accountants Barker Maule &
Co Chartered Accountants

Independent examiner
27 & 33 Castlegate
Newark, Notts NG24 1BA

MEMBERSHIP

Over the past 12 months we have increased our membership from 86 to 136 members. This has included a category for student members supported by the Natural History Museum ID Trainers for the Future Scheme.

Membership type	Number
Diamond Member (Now Affiliate Member)	11
Supporter Member – Organisation	46
Supporter Member – Individual	18
Silver Member	8
Bronze Member	20
Student member	33
Total	136

ACKNOWLEDGEMENTS

In addition to contributions from the Secretariat of the NBN and the Chairman, we would like to thank the following people who have contributed to this report:

Graham French

Teresa Frost

Paul Gilbertson

Keith Porter

Chris Raper

REFERENCES


NBN Gateway User and Technical Review 2015: Published by the NBN Trust, Nottingham.

NBN Strategy Refresh 2014: Strategy consultation - Your views summarised. Published by the NBN Trust, Nottingham.

NBN Trust. Registered in England and Wales
company no. 3963387
Registered charity number: 1082163
www.nbn.org.uk

**TWENTY
FOURTEEN
-FIFTEEN**

...what a year it's been



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