



NBN Trust



ANNUAL REPORT

2013/2014

INTRODUCTION

The UK's [National Biodiversity Network](#) comprises organisations which are committed to collaborating to make biodiversity data and information universally accessible. This involves establishing standards for the collection, collation and exchange of the UK's wildlife information, improving public access to data and increasing data visualisation and use. This is done to educate people, for research, and to inform all decisions about wildlife management, monitoring and conservation.



The NBN Trust is the body set up in 2000 to promote and facilitate the Network to achieve the aforementioned aims.

The aims of the NBN Trust are:

- To enable people to find out about the wildlife of the UK, so that they can better appreciate, understand and conserve it.
- To ensure that the Network provides the most accessible, reliable and comprehensive source of biodiversity information, whether locally, regionally or nationally, which people can use.
- To help individuals, and organisations of all kinds, contribute data and participate in the Network so that the information is the best available, keeping pace with changes in wildlife.

This review of 2013 - 2014 highlights how the NBN Trust, along with all Network participants and members, is working to achieve the Network's vision of "making all biological records freely and easily available to everyone".



NBN Trust

CONTENTS



4

Chairman's
Report



6

Chief
Executive's
Report



10

An overview
of NBN
highlights in
2013 – 2014



12

NBN Trust
Partner
Contributions



16

Technical
Developments



23

NBN
Community
– Using and
Developing



29

NBN
Community
– People



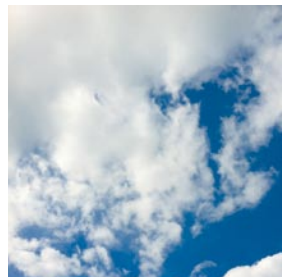
34

Communicating



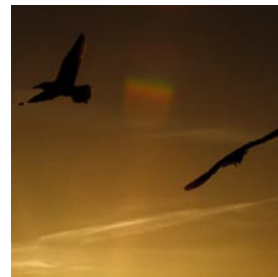
38

Raising the
Profile of the
NBN – A Year
of Events



48

Funding



51

The Coming
Year



55

Financial
Review



59

Administrative
Information

Click on page number to go directly to that section

Chairman's Report



Last year I wrote of my intention to reach out to new communities of users and recorders, particularly the research community, who I hoped would make full use of the NBN's records in their modelling and prediction. I am therefore pleased that the Trust has been able to host two important workshops that have focussed on these issues.

In January we held a one-day seminar with invited members of the research community to discuss how the NBN's data could be used to best effect and how it might be improved upon to increase its use within research. We had some excellent presentations that often took as their main themes works on bird and butterfly data. Together with data for moths and vascular plants, these taxa dominate our data holdings, although having said that a strength of our biodiversity data also lies in the breadth of our taxonomic coverage. I was very interested in the excellent work coming from the [Centre for Ecology and Hydrology](#) that acknowledges issues with our data such as patchiness, but still manages to extract important signals that we

can read from the data. In October we were also able to host a one-day seminar on pollinators and the challenges they face, especially bees. The day's discussions were summarised by Dave Goulson and Charles Godfray, and it is gratifying that our deliberations have helped to inform the Government's proposed Pollinator Strategy. You can read more about both workshops on pages 41 and 44 of this report.

The Board has experienced changes to its membership that are detailed on page 30. The NBN Trust has benefitted from the experience and dedication of its Board members, which has continued its review of the NBN Strategy with a two-day extraordinary meeting of the Board plus invited guests.

We hope to produce a revised strategy shortly which will be informed by wide consultation with members of the NBN.

The existing strategy needs to be periodically reviewed in this way, not because I believe in change for change's sake, but rather to ensure that the NBN is meeting changing needs, and also to allow us to review our response to the evolving technical and policy landscape. We hope to produce a revised strategy shortly which will be informed by wide consultation with members of the NBN.

Change seems to have been a feature of this past year. After serving as both Programme Director and then, following a governance review, Chief Executive, Jim Munford retired at the end of May 2014, after 15 years with the NBN. The present day success of the NBN is considerably due to Jim's drive and determination, coupled with

Chairman's Report



his deep knowledge of biodiversity data recording in the UK. I have really enjoyed working with Jim and we owe him huge thanks for all he has achieved. We have already appointed his successor, John Sawyer. As I wrote this, the two of them were working together to ensure a smooth transition.

I am particularly pleased by our showcase annual conference held at the Royal Society. The recording of this has been posted on [YouTube](#). Our keynote speaker, Barry Gardiner MP, set the tone for a wide-ranging series of talks, more on which you can find on page 42. We also use the occasion of the conference to award the Trust's Honorary Membership to those who in the Board's opinion have significantly furthered the

interests of the Trust and NBN. This year Stuart Ball of the Joint Nature Conservation Committee and Hoverfly Recording Scheme was so honoured to popular acclaim. The Honorary Membership was awarded to Stuart for his pioneering work in developing and maintaining a data management system specifically designed for biological recording, and for his developmental work on the analysis and interpretation of recording scheme data. Stuart is also well known amongst biological recorders for jointly running the Hoverfly Recording Scheme together with Roger Morris.

Sadly, I must also note the death at 92 of Bob George FLS who was made an Honorary Member in 2005. Bob organised the Siphonaptera (flea) recording

scheme and his obituary in the [Telegraph](#) also notes that he was a wartime fighter pilot flying Spitfires and later Meteor jets with No 616 (South Yorkshire) Squadron; the NBN brings together people from many backgrounds.

Our annual conference is also enlivened by the Burnett memorial lecture in honour of the Trust's first chairman. This year it was delivered by Professor Bill Sutherland of Cambridge University and President of the British Ecological Society. His talk was entitled 'Big data, NBN and effective conservation' which dealt with monitoring and the use of the data collected. Bill's informative and lively talk managed to include early bird watchers hiding in mock cows and the future use of Google glasses!

In line with raising the NBN's research profile we attended the 11th INTECOL Congress, 'Ecology: Into the next 100 years', which was held at the ExCel centre in London and co-hosted by the British Ecological Society to celebrate its centenary. It was attended by over 2,000 ecologists from 68 countries with a six day programme of world class science. We had a stand in the exhibition space and were able to make contact with a European group BioVeL (Biodiversity Virtual e-Laboratory) led by Matthias Obst of the University of Gothenburg, Sweden. This group is focussed on Ecological Niche Modelling where they take species occurrence data and interpret it against environmental layers to generate its ecological niche and thus predict

the future distribution following environmental change. This sophisticated modelling of the raw spatial data, which is the lifeblood of the NBN, to allow probable outcomes to be rigorously predicted has to be the way ahead.

The NBN Trust is fortunate in having an excellent group of staff, and I would like to thank them for their dedication, diligence and good humour. Our thanks are also due to the staff of our member organisations, in taking forward the wishes of the Board over the last year. But the last word should be for Jim for whom we wish the very best of 'retirements'!

Michael Hassell

Chief Executive's Report



By the time this Annual Report is published I shall have retired. I look back not on just the year past, but on fifteen years of challenge and achievement. My reflections on the past 15 years are on the Trust's [website](#) so I shall say no more.

The past year has brought into sharp focus some of the most significant changes to how we view and deliver conservation that I can remember. The impact and management of climate change, ecosystem services, natural capital accounting, offsetting, and countryside connectivity to create ecological networks join the conservation lexicon along with key BAP species. By happenstance, I am as old as SSSI, which were first put on the statute books through the National Parks and Access to

the Countryside Act 1949! I think a fair summary of designated sites would be as means to safeguard the status quo in biodiversity terms - a fight to maintain stasis. But we now know that we have to manage a more dynamic situation with species interactions and shifting ranges brought about by climate induced change. A more dynamic view of nature carries with it a more dynamic requirement for data publishing in order that decisions can be informed by the best and most up to date understanding of the changes to our biota. It is perhaps fitting that the baton of Chief Executive of the Trust should pass now to my successor, John Sawyer. John will meet the new challenges with fresh eyes and be better placed to support our

Chairman and Board in steering the NBN into uncharted waters; he will cast fresh eyes over the new landscape.

We have begun a strategy review to examine how the NBN might best develop against these new and emerging requirements. The Chairman and the Board have started the processes and now the new Chief Executive and the NBN Trust team will take forward the next phase; talking to our key partners, and drafting a revised strategy prior to consultation with the members of the Trust and users of the NBN Gateway both within the UK and internationally.

The Lawton report, 'Making Space for Nature: A review of England's Wildlife Sites and Ecological Network' submitted

The government is consulting over a monitoring and surveillance strategy that will steer the gathering and dissemination of biodiversity data, the NBN must play its part in delivering whatever emerges after consultation.

Chief Executive's Report

to the Secretary of State in 2010 gave a well reasoned structure to our changed thinking about conservation. The Lawton report was written against the background of climate induced change that could be identified but not prevented (at least in the immediate sense) – a dynamic process. The full impact of climate change on our biodiversity will play through for many years to come; species in order to survive will have to move and we must facilitate that process, we must monitor that process. 'Biodiversity 2020: A strategy for England's wildlife and ecosystem services' published in 2011 laid out the Government's plans for England. There are similar plans for other parts of the UK; '2020 Challenge for Scotland's Biodiversity

- A Strategy for the conservation and enhancement of biodiversity in Scotland' (2013) a supplement to Scotland's Biodiversity: It's in Your Hands (2004) with older plans for Wales and Northern Ireland. It is how we will judge success that interests me; in particular what biodiversity data will be required and how those data should be analysed and visualised. The published strategies seem to indicate that little will change in a data sense, the measure of success will depend on those datasets that are the most complete; birds, vascular plants, butterflies with a nod towards the key BAP species. It is not hard to understand why. A brief examination of the data made available on the NBN Gateway shows that datasets for these taxa

predominate; they offer sound data, collected in a standardised way from across the whole of the UK. The question for the future is will these data serve during a period of change and adaption, will they serve our purposes when offsetting is introduced, will they help us gauge the ecosystem services which are the cornerstone of the new approach to conservation, and will they give early warning if things are going adrift? I can't help feeling that we should be able to do better; it is no surprise to me that the RSPB for example is increasingly interested in non avian taxa. The [British Trust for Ornithology](#) has shared the data used for its Second Atlas of Breeding Birds in Britain and Ireland: 1988-1991 through the NBN Gateway; this shows

1,465,400 records of 272 species collected over 4 years. The NBN Gateway also holds data from the Collembola Recording Scheme; 10,633 records of 336 species over 200 years. This is not a balanced approach to data collection. If you look on the NBN Gateway for any common earthworm species you will be lucky to find more than a few hundred records, but as an ecosystem, delivering key ecosystem services, soil is pretty fundamental! As I write this, the government is consulting over a monitoring and surveillance strategy that will steer the gathering and dissemination of biodiversity data, the NBN must play its part in delivering whatever emerges after consultation.

As the Chairman has reported, we have run two significant

seminars this year at the Natural History Museum. One with the research community to examine the use being made of NBN data and how the situation might be improved, the other to examine how the NBN might assist in developing and monitoring the Government's Pollinator Strategy. To me, both of these seminars have reinforced my view that we must do more to bring other recording schemes up to the level of those I have highlighted for their excellence.

There is one facet of the NBN that still amazes me; a volunteer recorder on a wet and windy day in the Western Isles, Worcestershire or Wales (I am not going to be drawn on which is the most likely scenario) could be gathering the data that some day may be used to further



Chief Executive's Report

our understanding of biodiversity and the impact of climate change or habitat fragmentation within the UK, Europe and beyond. Usage figures for the NBN Gateway show that UK use (based on visits not time or page hits) amounts to about 80% of the total with 20% from overseas. In all, the NBN Gateway receives visits from 159 other countries, the highest at 2.2% being the USA followed by Germany, France, Spain, Italy and Turkey at about 1%. We also get visits from the British Virgin Islands, Togo, Lesotho and Bhutan! My guess is that the vast majority of these overseas visits are purely the result of idle 'internet curiosity', but some may lead to more serious enquiries.

This past year has seen the roll

out of the new NBN Gateway. It is right that it goes through these cycles of reinvention; the technology advances, the user needs change. It has not been an easy time, the NBN Gateway is working at the limits of possibility and there are occasional setbacks, but I have every confidence in the technical team that has developed this latest incarnation, and I know that they will meet every technical challenge that arises. Of course some of the challenges are not so much technical as those we create ourselves, both new uses and old barriers to data exchange and access. There are some data holders who have not welcomed the 'what you see is what you get (to download)' style of the new NBN Gateway. As a result we are not

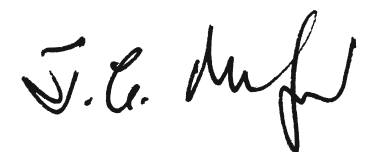
able to show all the records that we hold as 'publicly available' although application can be made to improve personal access for specified and agreed purposes. We are still in discussion with the organisations concerned and hope to find a long term solution. For now we must acknowledge this limitation on viewing and downloading some data and work towards a more universally acceptable solution – safeguarding all our biodiversity demands it. It remains to be seen just what new uses the NBN and the NBN Gateway will have to meet. Just what are the data needs and the data interpretation needed to implement the new biodiversity management landscape.

I have mentioned my own retirement, but I must also mention

that our Data Access Officer, Paula Lightfoot, has moved on to other things. She is now studying for a PhD at Newcastle, 'Integrating ecological knowledge and multi-resolution datasets of seabed areas to improve information on benthic habitats for Marine Protected Area planning'. Paula will be greatly missed, during her time with the Trust she has had a considerable impact, but her replacement, Rachel Stroud, is enthusiastically picking up on Paula's workload.

Finally, I should like to take this opportunity to thank all the NBN Trust staff that I have worked with over this past 15 years and the many other colleagues from NBN member organisations for their help in delivering the strategic vision of the Trust's Board and the

three Chairmen and many Board members it has been my pleasure to work with. I take with me a lasting impression of the sheer industry and endeavour that recorders bring to their task.



Jim Munford







Sharing Information about Wildlife

An overview of NBN highlights
from 2013-14

2013

April

New look NBN
eNews launched

New NBN RESTful
Web Services
developed

Thames Valley
ERC received LRC
accreditation



May

First National
Garden BioBlitz

iRecord ladybird
phone app
launched



June

Training materials
page developed
on NBN website



July

National Federation
for Biological
Recording achieved
charity status and
became National
Forum for Biological
Recording

August

New Record Cleaner rules
developed

Using Biodiversity data for
Research leaflet published

New NBN Trust membership
scheme launched

NBN exhibited at INTECOL



September

NBN displayed and hosted a
workshop at the Scottish Biodiversity
Strategy Conference



2014

October

90 million records on the NBN Gateway

NBN Gateway version 5 launched

NBN Trust convened a meeting to discuss Pollinators at the Natural History Museum



December

Accessing and Using Biodiversity Data course in conjunction with CIEEM took place



November

MBA received Royal Charter

Thirteenth NBN Conference "Future challenges for the NBN" took place at the Royal Society. The annual John Burnett memorial lecture is delivered by Professor Bill Sutherland.

Tenth Honorary membership award was given to Stuart Ball



January

Research workshop held at Natural History Museum



February

John Sawyer appointed as NBN Trust's new Chief Executive

Rachel Stroud appointed as Data & Liaison Officer



March

NBN exhibited at EcoBuild

ALERC National Coordinator role will continue until September 2014

rNBN package available in beta mode for testing



NBN Trust partner contributions





Natural England

Natural England has made a significant contribution to several areas of work that relate to the NBN strategy, most notably through a project we deliver on behalf of Defra for volunteer support.

“ Over 17 taxa were systematically recorded across 4 habitat types and provided over 7,000 records to the NBN Gateway ”

In the final year of this project we have supported over 700 training places for the identification of under-recorded species groups through the Biodiversity Fellows programme led by the Field Studies Council. This has resulted in over 8,000 additional records submitted already, with 6,000 of these submitted online via iRecord. This programme exceeded expectations and shows how a wider partnership approach to volunteer training can address gaps in the skills needed to cover ‘less popular’ taxa.

In response to reductions in funding for biodiversity we have also explored the practicalities of more structured surveillance as a means of both improving the quality of data and testing if we can better link species to habitat surveillance. Two pilot areas in Greater Manchester and Norfolk have shown that, with local support, volunteers can make a

strong contribution to improving the quality, quantity and breadth of species data. Over 17 taxa were systematically recorded across 4 habitat types and provided over 7,000 records to the NBN Gateway, all online, through the LRCs own applications. In addition, collaborative work between the local record centre in Norfolk and the British Trust for Ornithology tested the innovative use of automatic bat detector equipment. In a single year this resulted in over 400 volunteers collaborating, creating 250,000 records over 400 1km² for 11 of the UKs’ 17 bat species! This approach made extensive use of social media to coordinate and advertise the use of acoustic bat recording boxes.

Other work, both from Defra funded support and Natural England projects, has developed examples of multi-species surveillance in ponds and lowland heathland, development of better ways to verify species

data, improvements in data on semi-natural habitat location and extent, and increased efficiency in how Natural England and the Environment Agency support local record centres.

Alongside these achievements we have been working with partners in both Government and the voluntary sector to consider how we can evolve ways of working to respond to the technological and financial changes that are influencing the whole of the NBN. We recognise that many of our traditional approaches may not be sustainable, yet at the same time the demands and expectations are increasing. We are in a transition period with respect to the NBN and biological recording and Natural England will continue to play a strong role in facilitating and supporting the wider partnership that is critical to the NBN.

Association of Local Environmental Records Centres

“ LRCs are increasingly using the NBN Gateway to provide data to users, particularly national strategic users as well as to recorders and the wider public. ”

The Association of Local Environmental Records Centres (ALERC) represents 44 local record centres (LRCs) across the UK, each covering a discrete county or region and balancing the needs of a multitude of local recorders and users. The LRC network takes the national needs and strategies of the NBN and links these to recording and decision-making on the ground.

An important role for LRCs is to ensure that biodiversity data and evidence is used locally, and it was heartening that over half of the LRCs were involved in the new Local Nature Partnerships from the start. LRCs are also involved in an array of funded and partnership projects across the country; projects aimed at recruiting and training new recorders, such as *From Grey to Green* in Manchester and LRC-run training days in identification and online recording are especially vital to delivering the NBN strategy. The annual ALERC conference provides a forum for sharing experiences, with

presentations in October 2013 on two volunteer survey projects: the *Cornwall Intertidal Discovery project* and the *Norfolk Species Surveillance Network*.

For the first time, ALERC asked its members to report key operational data. The initial results (for 2012-13) are illuminating in themselves, and in continued collation of such annual statistics we will be able to see the LRC network adapting to new challenges.

63.9 million biological records were held in the 37 responding LRCs, of which they collectively estimated 45% were shared via the NBN Gateway (note that many of the remaining records will be shared on the NBN Gateway by other organisations). 35 of the LRCs use Recorder 6 software to manage biological records. 114 full-time equivalent staff in the 37 LRCs were joined by 25 full-time equivalent office volunteers. As well as dealing with biological records, LRCs manage a wide range of other datasets; for

example over half managing Local Wildlife Sites. They responded to over 12,000 data requests, 20% of which were non-chargeable. They provided services such as GIS data layers or planning screening to over 200 local planning authorities. However, a future challenge is to encourage the third or so of local authorities who aren't using their LRC to do so.

LRCs are increasingly using the NBN Gateway to provide data to users, particularly national strategic users as well as to recorders and the wider public. At the end of the year the first LRC started to use the new NBN Gateway REST web services. A key challenge for the year ahead is for other LRCs to migrate to the new web services and to increasingly access data from national schemes and other data providers for local use via the NBN Gateway, with the support of the recently formed ALERC data flow working group and the ALERC National Coordinator.





Marine Biological Association

2014 is the 130th anniversary of the [Marine Biological Association](#) (MBA) of the United Kingdom, and sees the award of a prestigious Royal Charter, recognising the MBA as a pre-eminent body representing marine biology as a discipline. The MBA aims to promote scientific research into all aspects of life in the sea and to disseminate the knowledge gained to a wide audience. As the marine node of the NBN, the MBA regularly updates its own extensive species and habitats datasets, and hosts the Archive for Marine Species and Habitats Data (DASSH), which is accredited under the UK Marine Environmental Data and Information Network (MEDIN), helping others to make their data available. MEDIN provides advice, tools and other resources for sharing data including providing data guidelines for a range of marine survey types to ensure that data collected is reusable. DASSH provides an integrated approach

to data archiving, management, and dissemination through close liaison with the scientific community, recorders, and other providers of marine data, ensuring where possible open access to data, and using the NBN Gateway as a data publication method. Recently the NBN has incorporated the Marine Species of the British Isles and Adjacent Seas (MSBIAS) species dictionary, a regional subset of the World Register of Marine Species (WoRMS) facilitating matching the taxa of the NBN species dictionary with the international standard for marine taxonomy.

Climate change, the spread of non-native species and other human activities are affecting our marine environment. To meet these challenges, the MBA continues to support the use of the NBN, including the supply of expertise and data to national and international programmes. The MBA leads the Marine Environmental Change Network (MECN) collecting long-

term marine environmental data from around the British Isles and Ireland to differentiate natural fluctuations from anthropogenic impacts. The MBA also plays a leading role in support of the EU Marine Strategy Framework Directive (MSFD) and manages records of invasive, non-native species on the NBN Gateway, including the Chinese Mitten Crab (*Eriocheir sinensis*) and Wakame (*Undaria pinnatifida*) for the Non Native Species Secretariat. The MBA recognises the vital role of recorders in the gathering of evidence on the state of the marine environment and strives to continually develop and sustain its accuracy and efficiency. Citizen science projects such as the MBA Shore Thing and Sealife Survey are increasingly used alongside formal scientific surveys to inform policy decisions and as evidence to support the designation of Marine Protected Areas including the recent tranche of Marine Conservation Zones (MCZs) in England.

“...the MBA continues to support the use of the NBN, including the supply of expertise and data to national and international programmes”

Technical developments

Main achievements:

The launch of NBN Gateway 5

New RESTful web services released which are easier to implement

Additional rule sets for NBN Record Cleaner developed and released for nearly 8000 taxa from 22 taxon groups

Launch of iRecord Ladybird



NBN Gateway 5 launches

“...this major new release of the NBN Gateway includes a range of new and improved functionality to that provided by the older versions of the site”

This year saw the launch of the new version of the NBN Gateway. This 5th major version allows the continued support for the increasing number of records made available through the NBN Gateway, which is increasing at a steady rate of around 10 million additional records per year. At the end of this reporting year the number of records stands at 95 million, significantly more than the 60 million records that were originally estimated to be present in the UK and for which the NBN Gateway was originally designed 10 years ago.

As well as handling the increasing number of records, the new version incorporates the significant advances in technology that have been made since the initial launch

of the NBN Gateway in 2004, with the latest up to date database and mapping technology replacing older technology that is no longer supported. In addition, the NBN Gateway now makes use of the expanding importance of web service technology for sharing data across the internet. This REST web service technology underpins the new NBN Gateway and provides an easier way to incorporate maps and data into other websites and desktop applications. The replacement of the older SOAP based web services significantly reduces the technological barriers to the future use of web services, that was previously an important reason for their lower than expected uptake.

For the user, the new NBN

Gateway interface incorporates the majority of the functionality available on previous NBN Gateway versions, but is more able to cope with the increasing amount of data. The site provides the standard ways of exploring the 95 million records, across almost 830 species datasets, submitted by over 150 organisations. Grid maps and site lists can be produced for around 43,500 individual species, with the interactive mapping tool providing more detailed mapping of these species' records. In line with the previous NBN Gateway versions species lists can also be produced for protected sites and 10km grid squares, as well as other wildlife sites boundaries. Each of these report outputs continues to be accompanied by the list of datasets

contributing to the report along with the providing organisations and links to the dataset's metadata, giving users the information needed to understand the methods involved in the record's collection and collation allowing them to restrict their use of the NBN Gateway to a number of specific datasets as required.

Alongside the provision of these standard reporting functions, this major new release of the NBN Gateway includes a range of new and improved functionality to that provided by the older versions of the site. This includes incorporation of recent improvements to the UK Species Inventory, the repository for taxonomic information on UK species (managed by the Natural History Museum), clarification of

NBN Gateway 5 launches

access to records presented as dots on the maps, more flexible ways of requesting access to records and improvements to the functionality and the format provided when downloading records from the NBN Gateway.

The new NBN Gateway incorporates changes to the access controls introduced following the consultation with data providers in the run up to the development of the new site. In contrast to the previous NBN Gateway versions, this new version no longer allows the restriction of viewing only dots on the maps without granting access to the underlying record details. The removal of this view only access control provides increased clarity for users when using the mapping

functionality to explore records prior to downloading them for further investigation and analysis. All records contributing to the mapped grid squares are now available to the user at the granted resolution.

This new version of the NBN Gateway also provides more flexible and improved ways of requesting enhanced access and the application of filters for downloading the subset of records for further use. Two new online forms, access request form and download wizard, have been added to allow users to easily apply a range of filters when requesting access to and downloading records. This range of filters allows cutting of records by one or more species, a site or

10km grid square, year range or a specific dataset or list of datasets. The forms also require users to enter the details outlining the reason and purpose of the access request or download, helping and informing data providers granting enhanced access and reporting on the use of their data through the NBN Gateway. The user may now also request enhanced access to multiple datasets across multiple organisations within a single access request. They can also download records from these multiple sources into one, rather than multiple text files. This new ability to bulk request access across multiple datasets along with the simplified download format has helped to simplify the process of accessing records for further

investigation. The administration and reporting pages have also been redesigned, incorporating the many improvements recommended by data providers during the data access consultation.

The launch of the new version of the NBN Gateway took place in 2013 and will allow the NBN to continue to grow at its current rate as well as incorporating up to date database and mapping technology and providing users with a more flexible way of accessing the data they require. Through this new NBN Gateway and NBN web services the NBN will continue to meet the future challenges faced in enhancing the use of biological records to promote the conservation, education and research of UK wildlife.

Using data through new NBN Web Services

The NBN Gateway web services have been built to allow biological data from the NBN Gateway to be used in websites and applications.

Prior to 2006 the NBN Gateway website was the only way you could interact online with the huge pot of biological data contained in its central database. However, NBN Gateway web services now expose these data in a very flexible way. This allows the data to not only be used in websites, but also in the software you use on your desktop as NBN web services provide a way of embedding data and maps from the NBN Gateway into other systems and websites.

Web services are used by a wide range of NBN partners for many purposes; to inform environmental decision making, to support the volunteer recording community or simply to help people find out about the wildlife that has been recorded 'in their backyard'. A significant portion of the data use from the NBN Gateway comes through implementations of web services. An important point is that

the policies governing what access you have to different datasets on the NBN Gateway website apply equally to the web services.

Until October 2013, the NBN web services framework was based on a technology known as SOAP, which had the disadvantage that it is relatively complicated to implement. The team therefore developed a suite of so called "RESTful" services that are much easier to implement. These web services are fully functional and are powering the new NBN Gateway.

The 'old' NBN Gateway and associated SOAP web services and Web Map Services (WMS) will continue to run until March 2015, after which point they will no longer be available. We do however encourage and support users to migrate to the new REST web services as soon as possible, because the data that is accessible via the SOAP web services is no longer being updated.

A significant portion of the data use from the NBN Gateway comes through implementations of web services

Here are some examples of what web services make possible:

- Get a list and map of species recorded in your area of interest (defined by a custom polygon, 10km square or known boundary, e.g. a SSSI).
- Get a list of BAP species with data on the NBN Gateway.
- Create a grid map displaying the records for a species.
- Get species records including date and location.
- Review the taxonomy for a species or sub-species.



Improving data quality with new NBN Record Cleaner rules

NBN Record Cleaner is a free, downloadable software tool to help people improve the quality of their wildlife records and databases.

Whether you are an individual recorder or work in an organisation such as a local record centre or a national recording scheme, the NBN Record Cleaner is designed to help you spot common problems in your data. The goal is to aid the process of data cleaning and ensure the

quality of any datasets you pass on to others.

It is designed to access biological records stored in a wide variety of formats such as text files (CSV, tab delimited, etc), Excel spreadsheets and databases - including those in biological recording packages such as Recorder and MapMate. It also allows you to check that your dataset is in the NBN Exchange Format prior to submission to the NBN Gateway.

NBN Record Cleaner rule sets have been developed by national experts for a number of taxonomic groups to assist in the process of improving data quality. This year, as part of the latest contracts part funded by Defra and the NBN Trust, additional rule sets were developed to extend the range of taxonomic groups created under a previous Defra contract. Rules

“Whether you are an individual recorder or work in an organisation such as a local record centre or a national recording scheme, the NBN Record Cleaner is designed to help you spot common problems in your data”


have been collated for nearly 8000 taxa from 22 taxon groups and are available for use in iRecord and will be incorporated into NBN Record Cleaner.

These new rule sets include a number of marine groups, such as seaweeds, anemones and soft corals, developed by Marine Biological Association, amphibian and reptiles rule sets developed by National Amphibian and Reptile Recording Scheme and several invertebrate groups developed by a range of invertebrate recording schemes in conjunction with the Biological Records Centre. These invertebrate groups include both terrestrial groups such as ladybirds, ground beetles, bees, wasps and ants, millipedes, centipedes and woodlice, grasshoppers and crickets, leafhoppers and froghoppers, robberflies, bee flies, soldierflies

and horseflies as well as freshwater groups including mayflies, caddisflies and stoneflies.

To address issues such as degree of identification difficulty, phenology and comparison against previously known species' geographical distribution, these rules have also been incorporated within the record checking facility provided by [iRecord](#), the online recording site developed by the NBN Trust and the Centre for Ecology & Hydrology to manage and share wildlife records.





Querying the NBN Gateway

from the R environment
with the rNBN Tool

rNBN is an R package that uses the NBN Gateway 5 to make data even more accessible for research and analysis, through the R environment for statistical computing.

The tool has been developed by Tom August at the Centre for Ecology & Hydrology (CEH), building on initial work by Stuart Ball and is targeted primarily at researchers and students to analyse and model species occurrence data.

The tool uses the NBN Gateway 5 to download species data, utilising the NBN login facilities which ensure that users have access to the

data as specified by their unique login. When using rNBN, users are sent a message outlining the NBN Gateway Terms and Conditions and a list of the relevant dataset provider contact details to ensure that they gain permission to use the data. All dataset downloads are also recorded such that they can be tracked by the data provider.

Functions within the package

allow users to search occurrence data by species, year-range, location, dataset and species groups. Other functions include allowing easy lookup of species Taxon Version Keys, retrieval of a species' taxonomical hierarchy, species lists for datasets, as well as access to lists of datasets, groups, organisations and vice counties which can be used in data searches.

The package is currently in beta phase, allowing people to test it and request additional features or changes before it goes up to CRAN, the central repository for R packages. It is anticipated that testing will be completed by late 2014.

A species trends analyses tool (SPARTA) is also currently under development, which builds on rNBN

“When using rNBN, users are sent a message outlining the NBN Gateway Terms and Conditions and a list of the relevant dataset provider contact details to ensure that they gain permission to use the data”

to allow users to model species trends. rNBN has been designed to link into SPARTA, making the two products highly compatible.

More information and download for the rNBN package can be found on the [NBN website](#).

Easier recording of ladybirds

with the iRecord
ladybird phone app

'iRecord Ladybirds' a free mobile phone app launched in May 2013 to help monitor the impact of the invasive Harlequin ladybird on the UK's native ladybird species.

Using iRecord, developed by the NBN Trust and the Centre for Ecology & Hydrology (CEH), for the online recording element, the app enables people to contribute more easily to the UK Ladybird Survey. This is important as results have already shown declines in native species such as the 2-spot ladybird in response to the arrival of the Harlequin ladybird, first recorded in England in 2003.

Within the app, each of the species has a distribution map and habitat information to give guidance on where they are most likely to be found. Additional information, including photos and a simple ID key, is provided to assist identification.

The app was produced by scientists at the CEH working with the Nature Locator team at the University of Bristol.



NBN Community- Using and Developing

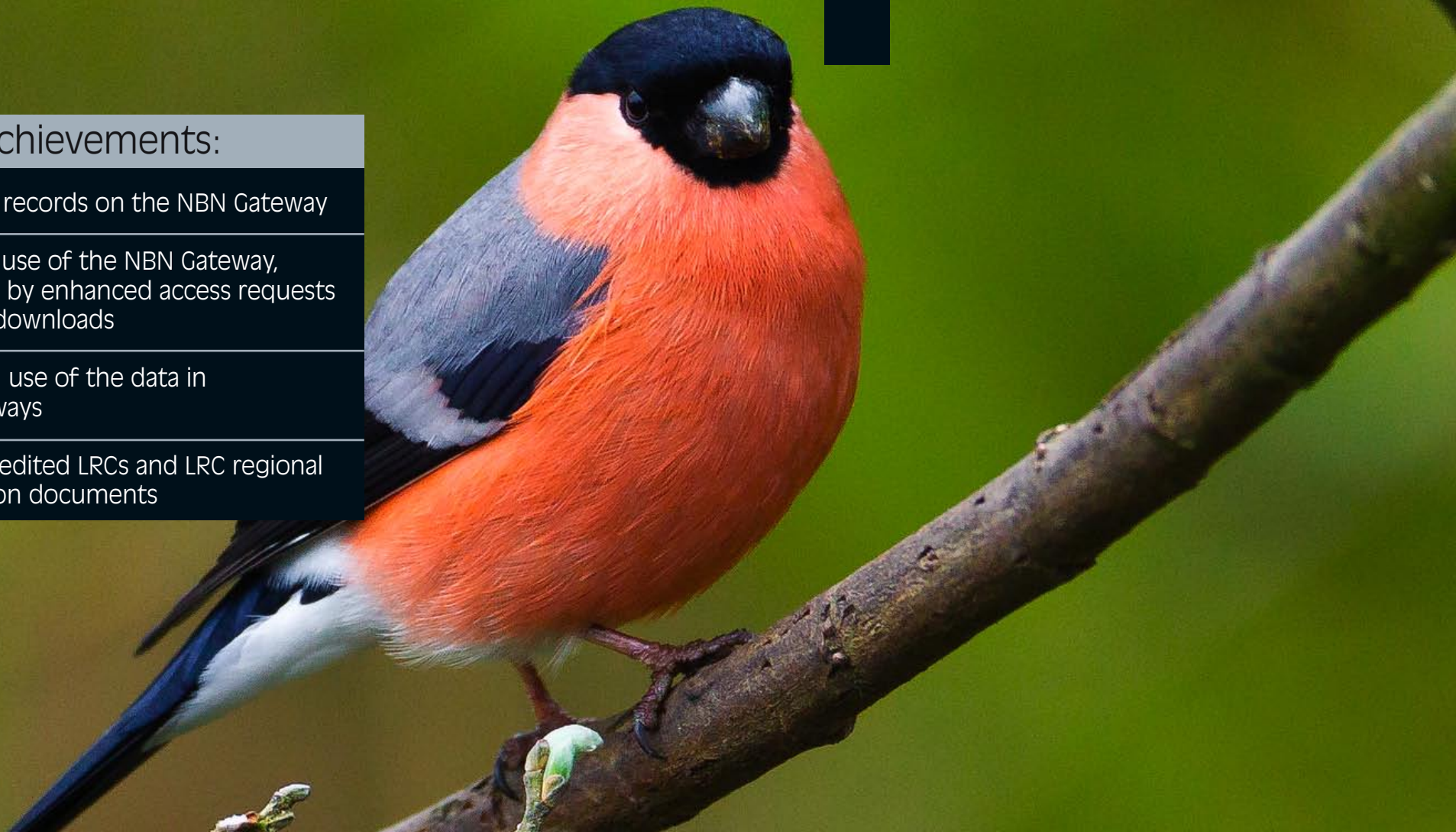
Main achievements:

95 million records on the NBN Gateway

Increased use of the NBN Gateway,
measured by enhanced access requests
and data downloads

Increasing use of the data in
practical ways

More accredited LRCs and LRC regional
information documents



An ever growing number of records on the NBN Gateway

Ten million new records were provided to the [NBN Gateway](#) in the last year which resulted in a total of 95 million at the end of March 2014. The records are provided by over 150 organisations across almost 830 datasets. 272 datasets were submitted for loading during the year from a range of data providers including national schemes and societies, local environmental record centres, local groups, non-governmental organisations and statutory nature conservation bodies. These included some large datasets, for example from Butterfly Conservation National Moth Recording Scheme with 14.7 million records, Sussex Biological Records Centre with 4 million records and Greenspace Information for Greater London data

with 2.7 million. There were also smaller datasets containing records of non-native species or European protected species, for example from Recording Invasive Species Counts (RISC project: botanical species) and Otter from the Outer Hebrides Biological Recording Project. The records provided have originated from, amongst others, long-term monitoring programmes, one-off surveys, site records or collations of ad hoc records as well as citizen science projects from a range of local groups, national schemes and societies, non-governmental organisations, local record centres and statutory nature conservation bodies. This year also saw further datasets from online recording packages such as Indicia implementations and iRecord, for

example the UK Ladybird Survey data from iRecord, administered by the Biological Records Centre.

The 90 millionth record was loaded in August 2013. This was a caddisfly *Goera pilosa* spotted on 17th September 1990 in southern Lincolnshire (SK920287) by the Environment Agency. The record was contributed by the National Trichoptera (Caddisfly) Recording Scheme (dataset hosted on the NBN Gateway by the Biological Records Centre) in the updated dataset *Caddisfly (Trichoptera) records from Britain and Ireland to 2012* which now contains just over a quarter of a million records of 207 species. The update was significant as it mobilised historical as well as more recent data and the dataset had last been updated in 2004.

Around 60 million of the 95 million records on the NBN Gateway are available, at different resolutions, to the public and in NBN Gateway 5, these 60 million records are also available to download compared to 35 million last year from the previous version of the NBN Gateway. Over 30 million are also available through the [Global Biodiversity Information Portal](#) (GBIF); of which the NBN Gateway is the UK node.

The update was significant as it mobilised historical as well as more recent data and the dataset had last been updated in 2004.



Using data across the NBN

“ Since the launch of NBN Gateway 5 there have been over 5000 separate data downloads by 1065 individuals and 40 organisations across 789 datasets. ”

Since October 2013, over 2100 requests for enhanced access to records on the NBN Gateway have been granted to over 140 individuals and 22 organisations. This was almost 25% of all requests under the new system where there are now only two levels of access: public and enhanced (where enhanced refers to the full resolution of the record). Records flagged as sensitive by the data provider are hidden from public view, are not available for download without permission and have an additional control over and above enhanced access.

Organisation access requests largely related to statutory work, conservation NGO work and non-commercial data provision and interpretation services, whereas

individual requests were in the main for personal interest or educational purposes. Since the launch of NBN Gateway 5 there have been on average around 19,500 visits per month to the NBN Gateway and 5,700 visits per month to the Interactive Mapping Tool. There have also been over 5000 separate data downloads by 1065 individuals and 40 organisations across 789 datasets. Over 2000 of these were for personal interest and a further 1000 for educational purposes.

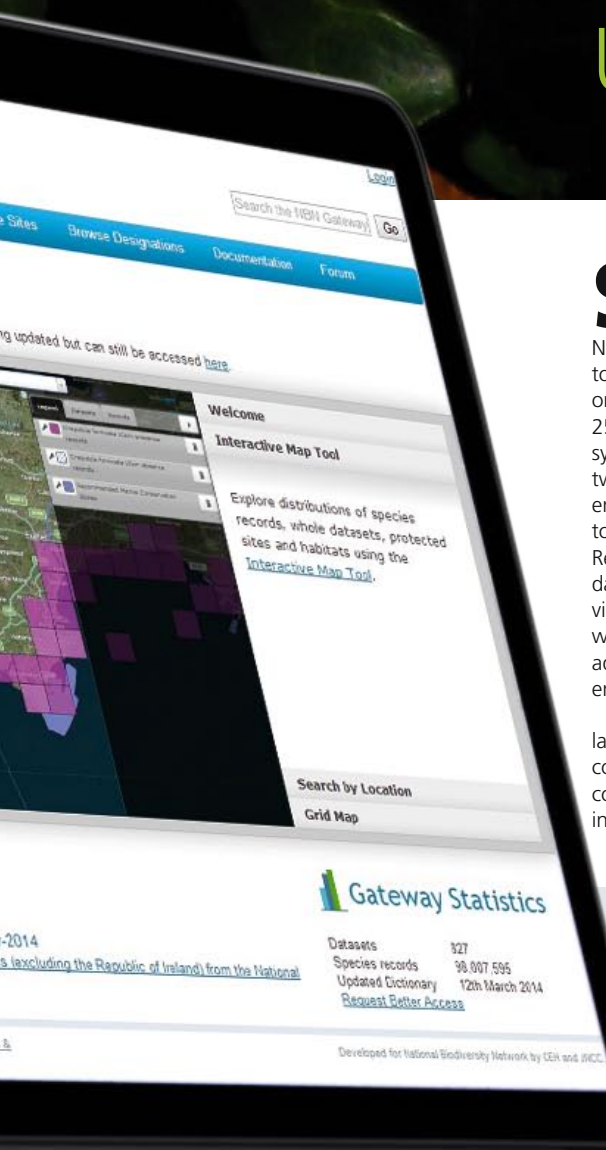
The vast majority of access requests and downloads related to the terrestrial environment in the following key areas:

• **Data provision and interpretation (both non-profit and commercial)** – this includes:

- data searches by local record centres and other organisations/contractors to feed into local planning and development screening (eg siting of small wind turbines in accordance with the Scottish Water (Resources) Act 2013)
- feasibility study for pumped storage hydroelectricity projects contributing to a wider report to the Department of Energy and Climate Change
- to identify potential species-rich/Annex 1 grasslands/wetlands)
- to provide ecological consultants with information on the location of protected species records.
- **Education and research** - undergraduate, postgraduate

and postdoctoral academic and organisational research projects involving spatial data or literature review, such as:

- testing the utility of vascular plants as ancient woodland indicators across Great Britain
- estimating the impact of climate change and habitat suitability on the viability of populations of the adder, *Vipera berus*, across the Morecambe Bay Nature Improvement Area
- assessment of viability/feasibility for re-introduction and the dispersal of top carnivores in Britain
- investigating the effects of neonicotinoids on non-target organisms





Using data across the NBN

“

...the Environment Agency regularly downloads records held on the NBN Gateway for protected and rare species in order to inform its work

”

- investigating the wider environmental benefit for vulnerable benthic species of Marine Protected Areas
- investigating the history of the marine environment using sclerochronological techniques (ie shell-ring research) on the bivalve molluscs *Arctica islandica* and *Glycymeris glycymeris*.
- modelling phenology
- **Conservation work by non-governmental organisations** – this can be to inform management and future survey as well as gaining an understanding of baseline data for a protected or local site (e.g., a Site of Special Scientific

interest (SSSI)) as well as encouraging agri-environment scheme uptake to coincide with distributions of protected species. For example:

- RSPB used data on a wide range of species to help target future conservation work and support partnership work on particular species to aid its conservation
- North York Moors National Park Authority requested access to data in order to enhance habitats for threatened target species
- Biological Records Centre created an automated twitter account to disseminate information about the distribution of moths

- update and implement a Local Biodiversity Action Plan
- **Statutory reporting and regulatory functions** – the Environment Agency regularly downloads records held on the NBN Gateway for protected and rare species in order to inform its work on regulating others, undertaking works or for informing strategic plans. Additional examples of how data collated onto the NBN Gateway has been utilised for conservation gain includes:
- assisting with the assessment outcome of the Scotland Rural Development Programme 2007-2013 for conservation, distribution and extent of *Spartina anglica* to inform a

statutory project reviewing the management of this species on Natura 2000 sites

- provision of evidence for protected site selection, assisting with bat roost surveying, production of species monitoring forms and informing local biodiversity action plans.
- **personal interest** – this can be interested individuals (including keen photographers) wanting to:
- confirm a species observation
- improve identification skills
- identify a site where a taxa of interest is located in order to visit
- understand their own records in the context of others recorded locally

It also includes:

- conservation volunteers wanting to encourage others to record their sightings.
- local groups and county recorders requiring additional data to contribute to an atlas project or validate and verify existing records using distribution data, compiling a local list for a site or vice county or ascertaining baseline data and suitable sites for further surveys.

Although no new or updated habitat and spatial layers were loaded this year the existing boundary layers can be used as backdrops to species records and can also be used to create site reports and species lists.

NBN Gateway delivers INSPIRE

compliance for
species data

The Infrastructure for Spatial Information in Europe (INSPIRE) Directive aims to make it easier to access and combine environmental spatial datasets held by public authorities, to support environmental policy and practice at a national and international level. This Directive became UK law under the INSPIRE Regulations 2009, setting standards for public authorities on metadata creation and the provision of publicly accessible data services.

To ensure the UK delivers the requirements of the INSPIRE Regulations, Defra set up the UK Location Programme (UKLP) to provide strategic leadership, set standards and guidance on data transformation, network services and metadata, submit INSPIRE monitoring reports and manage a helpdesk function.

INSPIRE requires the publication with a view and download service of spatial data relating to 34 environmental themes set out in three annexes.

In May 2013 and in relation to Annex III species data, the UKLP recommended the publication of species data via the NBN Gateway as a sustainable and cost-effective way of complying with the INSPIRE regulations. Whilst the UK Location Programme cannot mandate use of the NBN Gateway, it will not provide support for public bodies using other publishing mechanisms.

Using the NBN Gateway will reduce the INSPIRE burdens on public sector organisations who hold species data. Many of these organisations already publish species data to the NBN Gateway either directly or via local environmental records centres.

Accrediting Local Record Centres

“There are several LRCs that are currently working towards accreditation, which demands they look at their policies and procedures and provide evidence that they are working to best practice.”

LRC Accreditation gives local record centres the chance to show they meet minimum standards for their organisation's fundamentals, service provision and data custodianship. In order to become accredited, LRCs are required to submit evidence that shows they meet an extensive and detailed set of criteria. It is hoped that the accreditation system will ensure high standards for Association of Local Environmental Records Centres (ALERC) members, all of whom will eventually become accredited.

So far, five LRCs are already accredited and another assessment is planned for June 2014. There are several LRCs that are currently working towards accreditation, which demands they look at their policies and procedures and provide evidence that they are working to best practice. This is a detailed and involved process which requires a lot of time to complete thoroughly. However, the LRCs that have been through it have described it as being very beneficial. Camilla Burrow, the manager of the accredited Thames Valley Environmental Records Centre said “ALERC accreditation assures our data providers and data users that TVERC is a professional and responsible organisation and is worth investing their time and funding in.” More information on the accreditation system, including the criteria themselves, can be found on the [ALERC website](#).

Local Record Centres

working together

Charitable status

for NBN Trust founder member

This year, the South East, North East and Yorkshire regions' LRCs have completed regional information documents, joining the North West and the East of England. These documents, which are produced with support from NBN Trust and ALERC, provide people with information on the LRCs in the English regions. They explain the products and services that recorders and data users can expect from LRCs, as well as describing how data arrives at LRCs and how LRC partnerships are constituted. The documents contain facts and figures, case studies and examples which show how LRCs work with individual recorders, recording schemes and societies in order to provide data access to a large range of clients, as well as facilitating supply of data to the NBN Gateway.

For more information on these documents and to access them, visit the [NBN website](#). In the Southwest region, the LRCs decided to go for a completely web based solution, creating a Southwest LRC [website](#), containing information on the centres in the region, as well as a map and search tools that help guide people to the relevant LRC.

In July 2013, the Chairman of the [National Forum for Biological Recording](#), Graham Walley, announced that the Forum had achieved charitable status. Originally founded in 1986 as the National Federation for Biological Recording, it changed its name earlier in 2013.

The move to charitable status aims to allow the NFBR to seek public funding, enabling it to help more people get involved in biological recording and to facilitate future developments.

Since its formation, the NFBR has been a catalyst in developing major initiatives in the world of wildlife recording:

- The NFBR was a pioneer in setting standards for recording wildlife, and especially the development of computer-based systems.
- It was a partner in the Co-ordinating Commission for Biological Recording in the 1990s under Sir John Burnett (the NBN Trust's first Chairman), recommending in particular that "a phased development of a national system is desirable to meet present and increasing future demands for biological records and [to] bring some coherence to the present disparate range of activities".
- The NFBR was subsequently instrumental in negotiations leading to the establishment of the National Biodiversity Network and is a founder member of the NBN Trust.
- With the increase in cover of local biological record centres, the NFBR encouraged the setting-up of the Association of Local Environmental Records Centres in 2009 to specifically represent their interests.

NBN Community- People

Main achievements:

Successful appointment of new
Chief Executive

Maintained full quota of NBN Trustees

Successful appointment of new
Data & Liaison Officer

ALERC National Coordinator role
maintained for a further 6 months

Tenth Honorary Membership Award

New Chief Executive for the NBN Trust

Although officially outside of the reporting period for this annual review, we must make note of the fact that Jim Munford retired as Chief Executive of the NBN Trust at the end of May 2014. You can read his review of the year in the Chief Executive's Report on page 6.

The new Chief Executive is John Sawyer, who has been involved in nature conservation, biosecurity and ecological research and restoration for over 20 years as a corporate, government and NGO advisor. He has worked in New Zealand, Europe and Central and South America including time on the Chatham Islands and Robinson Crusoe Island (Chile) and the highlands



John Sawyer

of Guatemala. John has co-authored many papers and books including *Plant me Instead* (a guide to environmentally friendly gardening), *Threatened plants of New Zealand*, *Introduction to applied biogeography and Threatened plants of the Chatham Islands* as well as a hiking cookbook entitled

'Gourmet Tramping in New Zealand'. John was President of the New Zealand Ecological Society and was co-founder of the New Zealand Plant Conservation Network – New Zealand's largest NGO devoted solely to the protection of New Zealand's native plant life. For ten years he ran the Network's national [on-line flora database](#). He is co-founder of [Nature Space](#) – an online portal for people involved in ecological restoration in New Zealand and has worked as an environmental strategy and policy advisor for Auckland (NZ's largest city).

You can read John's views on the coming year on page 52.

Changes to Trustees

As noted by the Chairman, there have been some changes to the Board of Trustees over the last year.

The following Trustees have now resigned from the Board; Dr Julia Blanchard (British Ecological Society, BES), Dr Michael Dobson (Freshwater Biological Association, FBA) and Martin Parkinson (Natural Resources Wales, NRW). We would like to take this opportunity to thank them all for their valued input.

The Trust would like to welcome the following new Board members; Tom Webb representing [BES](#), John Davy-Bowker representing [FBA](#) and Helen Wilkinson representing [NRW](#). The Board remains at full capacity with 15 Trustees.



Tom Webb



John Davy-Bowker



Helen Wilkinson

Changes

to the Data Access Officer post

In early 2014, and after three and a half years in the role of Data Access Officer, Paula Lightfoot left the NBN Trust to pursue her marine interests in academia. She has taken up a PhD studentship at Newcastle University to carry out research on data modelling to inform marine spatial planning in the North Sea. Paula worked tirelessly within the Trust and we all owe her a great deal in terms of her work on the access controls and engagement with the volunteer and LRC communities. We wish her well in her new endeavour.

Paula's departure sparked a review of the tasks the NBN Trust needed to satisfy and an evolved role of Data and Liaison Officer (DLO) was advertised. The recruitment process delivered a raft of excellent applicants from across the NBN community and

we were faced with a difficult choice for the appointment.

Our decision was to appoint Rachel Stroud, who had latterly been working as the RSPB's England Data Manager. With a first class BSc in Zoology with Marine Zoology from Bangor, Rachel upholds the strong marine and North Walian representation within the Trust. Rachel has a strong avian background with personal contributions to the BTO's Wetland Bird Survey and participates in a White-front Geese research project in Greenland. Rachel's baptism of fire was at the Extraordinary General Meeting at the Natural History Museum in February and since then she has been working to acquaint herself with the priorities and personalities of the NBN.

Association of

Local Environmental Records Centres, National Coordinator Role update

The ALERC National Coordinator role will continue for at least a further six months thanks to ALERC and the NBN Trust combining to fund it. There will be fifty percent contributions from both funding partners and the work programme will reflect this. The work itself, for the period April to September 2014, will pick up similar themes as the previous two years, namely data supply, access and quality. This will involve helping LRCs get the most out of online recording and NBN Web Services. In addition to technical work with LRCs, the next six months will also include helping organise ALERC events, such as the conference, and facilitating the

“The role will also now look at sustaining itself into the future by investigating new sources of funding.”

ALERC accreditation process. LRC accreditation in particular relies on someone being in post to do the administration and assessments, so it is good news that this can continue and that the LRCs awaiting assessments will be able to receive them this summer.

The role will also now look at sustaining itself into the future by investigating new sources of

funding. So far it has relied on ALERC, NBN Trust and Defra working together to support the post, but support into the future from these sources is not guaranteed and the ALERC membership cannot support the post by itself. This may mean that in the future the post relies on new partners and works on different projects.

Honorary membership awards

The tenth award

The NBN Trust awards honorary membership to individuals who have made an outstanding personal contribution towards the objectives of the Trust. The award is usually given during the proceedings of the NBN Conference and so it was in 2013, as the award was presented to Stuart Ball.

Stuart has an almost unique combination of quantitative skills, programming expertise and deep understanding of natural history. These have been fundamental to supporting and developing biological recording for 25 years, contributing significantly to the success of the NBN.

Stuart's pioneering work in developing and maintaining a data

management system specifically designed for biological recording began as early as 1984 when, at a Biological Curators' Group conference, he demonstrated a package he was developing for his own recording. This was taken-up in the margins of the NFBR conference at Bristol in 1987 - prompted by Bill Ely (an active recorder who also ran a local record centre in Rotherham), to develop a standard package, especially for amateur recorders and LRCs. This grew into the Recorder project - which, despite its many faults and many versions, has served as a model for biological recording data management systems for more than 20 years, with Stuart's active involvement throughout the first

The NBN Trust awards honorary membership to individuals who have made an outstanding personal contribution towards the objectives of the Trust.

decade and a half. Recorder 2000 started development in 1999, went out in 2000, and Stuart was closely involved with design of 2000, 2002 and Recorder 6. As Recorder 6 was developed professionally he became less involved. Recorder resellers depended on Stuart for some years because he wrote the software to transfer data from Recorder 3 to Recorder 2000/2 and Recorder 6, and provided a lot of support for those using it.

Stuart has contributed to Diptera recording in general, but in particular, since 1990, has run the [Hoverfly Recording Scheme](#) (jointly with Roger Morris). This has proved to be a model for how a scheme for a moderately difficult group could be made popular and effective by communicating with recorders and providing training at all levels, from beginners to improving experts. Their provisional atlas (2000) was an excellent example of what can be done with

data from a recording scheme, and data from the scheme is available on the NBN Gateway. The atlas was updated in 2011 and this further broadened the evidence of what can be done with such data. Lastly, his developmental work on the analysis and interpretation of recording scheme data has been highly influential in stimulating wider use of biological recording data for measuring trends, both by raising awareness of the possibilities to the wider recording community but also by spurring the interest of statisticians. He led the way by developing and applying techniques to analyse the Hoverfly Recording Scheme data in novel ways to understand the impacts of climate change, habitat loss and their interactions.

Honorary membership awards

The third award

We are sad to report that Robert “Bob” George passed away on 9th November 2013.

Bob was awarded Honorary membership of the NBN Trust at the NBN Conference on 18th November 2005. This was given to him in recognition of his services to the study of insects and biological recording, notably for his long service, since before 1960, as voluntary organiser of the UK Siphonaptera (Flea) Recording Scheme, and for his pioneering work in supporting the employment of standard nets for sampling insect populations.

Over the years, Bob developed a precise notion of how fleas are distributed across the British Isles, presenting these findings in his atlas, which was published by the [Biological Records Centre](#). His records are available on the NBN Gateway.



Communicating



Main achievements:

New look NBN eNews launched

2300 NBN eNews subscribers

Membership scheme updated

Increasing activity and followers
on social media

Key communication channels

NBN website and
NBN eNews

In April 2013, we re-vamped and re-designed NBN eNews to give it a new look.

Issued on a monthly basis, at the end of the month, the new eNews was styled to reflect the NBN website design. It also has a "navigation bar" to take you directly to the NBN home page, the NBN Gateway, iRecord, NBN Tools and the NBN Forum. All of the news items link directly to the full stories on the website and the upcoming events are also listed out, for ease of reference.

The statistics give a very clear picture of the peaks in traffic to the NBN website when eNews is

issued. In the first year of the new style being used, the following stats are worth noting:

Unique pageviews - 136,686

Pages viewed per session - 2.37 (average)

Time on page - 1 minute 31 seconds (average)

Whilst it's difficult to get general website averages to compare the above figures with, based on general web behaviour, they appear to be very encouraging.

The top pages are:

Latest news

What is the NBN?

Events & Training

News – job vacancies

Submit Wildlife sightings

Contact us

Use data

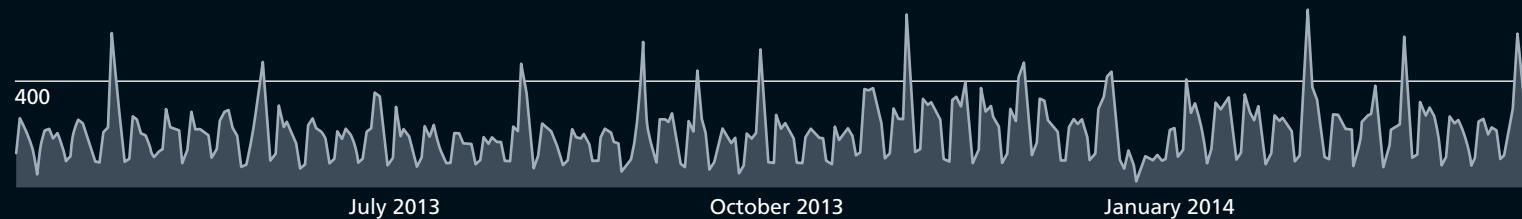
Tools & Resources

Share data

Online recording

 Sessions

800



Updated membership scheme launched

A new membership scheme was launched in July 2013, replacing the scheme which had been in effect since summer 2010. The previous scheme was created to offer a range of membership levels that would suit the broad partnership and offer something for everyone. Over time however, it developed a number of anomalies in relation to the amounts paid by different organisations at different levels. We wanted to address these inconsistencies and also needed to heed legal advice we had been given which stated that the benefits we give out should not be greater than the funds received in through membership. The main change in this respect is that we are no longer able to give

free NBN Conference tickets to Supporter Members, but can instead give half price tickets.

Full details on the membership scheme can be found on the [NBN website](#).

Over the last year we have seen an increase in membership numbers from 84 to 86. The following table shows the number of members by membership type.

Membership Type	Number
Supporter Member – Individual	7
Supporter Member – Organisation	44
Bronze Member	15
Silver Member	9
Gold Member	0
Diamond Member (Now Affiliate Member)	11

Listening to feedback - NBN Conference survey

Approximately 160 people attended the NBN Conference in November 2013 and whilst general comments on the day were positive we wanted to make sure that everyone had the opportunity to give their feedback, which would allow us to assess the success of this Conference and hear any suggestions for future events. We therefore held an online survey, which was completed by a third of people who attended the event. These are the top line results:

- The majority of respondents were from the Charity sector, followed by LRCs, government / agencies and then other sectors. This compared to most attendees being from National Schemes & Societies, followed by LRCs, agencies and then other sectors.
- Most people are likely to attend the 2014 Conference
- Most people think it is good value for money

- A quarter of respondents had not been to an NBN Conference before
- The main reason for attending is the chance to network and meet colleagues, this is followed by the conference theme. The date and venue are least important.
- A quarter of respondents thought there was too little time for discussion
- A number of respondents commented that the sessions were too long without a break
- A number of respondents suggested possible future themes.

Whilst most people (85%) felt that the number and variety of speakers was good or very good, we did receive some comments that the Conference could be more balanced in terms of the stakeholders represented. Whilst we do try and ensure a balanced programme each year, with a cross section of presenters, this led us to

review previous conferences and we can now share the following breakdown of sectors which have been represented by speakers over the last eight conferences:

- National Schemes & Societies - 12
- Academia - 9
- Local Record Centres – 9
- Scientific & Research - 9
- Agency – 8
- Other - 5
- Government – 3 (includes 2 x keynote addresses by MPs)
- Commercial (Sponsors) – 3
- Consultancy – 2
- Volunteer - 1
- NBN Trust - 1

The Survey proved to be really helpful and we took the comments into account whilst planning the 2014 Conference and have adapted the format accordingly as a result.



Increasing social media activity

We increased our activity on Facebook, Twitter and LinkedIn throughout the reporting period and will continue to do more across this vital communications medium over the coming year.

Whilst the numbers increase on a daily basis, the current statistics are as follows:

Twitter - 2,379 followers

Facebook - 349 likes

LinkedIn - National Biodiversity Network Group - 3,568 members



Raising the profile of the NBN - A year of events

Main achievements:

NBN stand at INTECOL

Attendance at Scottish Biodiversity Strategy Conference

Joint Pollinator meeting with the Natural History Museum

Well attended NBN Conference

Workshop with the research community

Well attended Extraordinary General Strategy Meeting





From Sunday 18th to Thursday 22nd August the NBN Trust was one of the stand holders at the INTECOL Congress at ExCel, London.

“

Pleasingly all of the UK visitors had heard of the NBN and the NBN Gateway and they had all either used it in the past or were regular users of it currently.

”

The International Association for Ecology (INTECOL) Congress takes place every four years and the “11th INTECOL Congress, Ecology: Into the next 100 years” was held in London as part of the centenary celebrations of the [British Ecological Society](#). The theme of the Congress was “advancing ecology and making it count”, which sought to present world class ecological science. It was billed as the largest ecological academic conference in the world and anticipated up to 2,000 delegates including academics, policy-makers and senior level executives within the ecological arena.

Certainly it was clear from the opening, that this was going to be a truly global event, as we had visitors to the stand from Japan, China,

Brazil, Chile, India, Sri Lanka, USA, New Zealand, to name but a few, as well as the rest of Europe.

What was apparent was that the UK, through the NBN, leads the way in terms of gathering and sharing data through the [NBN Gateway](#). So often, we heard that other countries were trying to set up something similar, or were thinking about doing something similar. Everyone wanted data to be easily accessible and the fact that data through the NBN is not only easy to access, but also freely available was a notable positive in everyone’s eyes.

Pleasingly all of the UK visitors had heard of the NBN and the NBN Gateway and they had all either used it in the past or were regular users of it currently. Everyone was very keen to hear about the new developments with NBN Gateway

5, with coincidence mapping being a popular new feature.

The NBN Trust stand had been designed to include a 32” touchscreen on which we were able to demonstrate the NBN Gateway, [iRecord](#) and an implementation of Site Record, a new concept which allows the interaction of online recording and NBN web services on specific sites. So, people could have a go and try it out for themselves.

Another theme that was mentioned by a number of visitors to the stand was the advent of online recording and citizen science. People were especially pleased to hear about the NBN standards for verification and validation of the data and of the [NBN Record Cleaner](#). All were impressed with iRecord and the ease of using the system, which they could see through the demonstration screen.

Scottish Biodiversity Strategy Conference

In September, we attended *The Scottish Biodiversity Strategy: Opportunities and Challenges for Science* joint British Ecological Society, Chartered Institute of Ecology and Environmental Management and Scottish Biodiversity Forum meeting at the Royal Botanic Gardens in Edinburgh. The two-day meeting saw 140 delegates attend presentations and posters from the most influential biodiversity strategy players in Scotland. Delegates included representation from the key biodiversity research institutions in Scotland including Napier, Aberdeen, Edinburgh and Dundee Universities, The James Hutton Institute, Scottish Agricultural College, Centre for Ecology and Hydrology and of course, Royal Botanic Gardens Edinburgh.

Key contributors included Professor Louise Heathwaite,

The conference provided a great opportunity to reaffirm the role of the NBN in Scotland through the demonstration of the brand new NBN Gateway

the Scottish Government's Chief Scientific Adviser for Rural and Environment who asked questions around future-proofing biodiversity metrics and exploring the role of the science and policy interface.

Des Thompson of Scottish Natural Heritage (SNH) built on the theme with a presentation of the 2020 Challenge for Scotland's Biodiversity strategy document and identified

three key challenges, which are as appropriate for the rest of the UK as they are in Scotland. These are:

1. Mainstreaming biodiversity into health, education, transport and business areas
2. Adopting the 'ecosystem approach' by planning authorities, community groups, NGOs and agencies; and

3. Widening the benefits for people... nature helps everyone - not just boffins and bores!

Practical good news stories included details of *The Green Stimulus Peatland Restoration Project*, which was setup in 2012 to sequester and store carbon in Scotland's peatland resources (Andrew McBride – SNH) and *American mink control – combining science with community action* (Xavier

Lambin – University of Aberdeen) which demonstrated how good science with dedicated local participation has led to the near eradication of one of Scotland's most voracious and damaging aliens.

The conference provided a great opportunity to reaffirm the role of the NBN in Scotland through the demonstration of the brand new NBN Gateway and online recording with iRecord using the latest touchscreen technology.



Supporting development of a National Pollinator Strategy



To support Defra in developing a National Pollinator Strategy, the Pollinator Expert Advisory Group (PEAG) recommended that a workshop be convened to explore the issues concerning monitoring wild pollinator populations and diversity in the UK as well as the services they provide. The NBN Trust and the [Natural History Museum](#) agreed to take this on, and a pollinator monitoring workshop was held at the Museum on 17th October 2013.

Prior to the meeting, Defra commissioned a short desk survey from [Joint Nature Conservation Committee](#) (led by Dr Deborah Proctor) on current monitoring and surveillance schemes. This

included major surveys of the geographical distribution of hymenopteran pollinators organised by the Bees, Wasps and Ants Recording Society, the butterfly and moth recording schemes organised by Butterfly Conservation and Rothamsted Research, the Hoverfly Recording Scheme, and the Beewalks (bumblebee transect walks) organised by the Bumblebee Conservation Trust. No major omissions were identified at the workshop.

About 50 people attended the workshop including representatives of all the main monitoring schemes, academic biologists, policy makers and representatives of citizen science organisations.

The Defra Chief Scientific Adviser, Professor Ian Boyd launched the workshop followed by a plenary from Professor Jane Memmott (University of Bristol). Dr Helen Roy also described a currently unfunded Centre for Ecology & Hydrology initiative to set up a UK pollinator monitoring network. The bulk of the day was occupied by breakout sessions and reporting back plenaries.

The range of topics covered was extremely broad and the conclusions drawn were as follows:

- A complementary portfolio of monitoring schemes is likely to be required to adequately monitor pollinator populations. Much of this can be achieved by building on and refining those schemes that already exist.

- An integrated, online and app-based citizen-science system, bringing together and streamlining existing schemes, has great potential to enhance qualitative recording, and could reduce the pressure on expert identifiers by ensuring that each specimen / photograph only appears on one system.
- A systematic survey of crop pollinators and pollination deficit for crops might use farmers to collect data, since it is of direct relevance to their livelihood.

- A structured, stratified, long-term recording scheme covering a broad range of pollinator taxa, alongside monitoring of changes in habitat distributions and plant abundance is probably needed if we are to be able to understand in detail the drivers of changing pollinator abundance over time. Samples from such a scheme might be stored for future analysis using genetic tools. Any new, structured, long-term scheme would require significant targeted investment.

A complementary portfolio of monitoring schemes is likely to be required to adequately monitor pollinator populations.

"Future challenges for the NBN"-

NBN Conference



The 2013 conference was designed to get feedback from a range of NBN partners, in order to judge this issue and to consider "Future challenges for the NBN".

Against a backdrop of reduced Government funding, changes in environmental policies and an increasing awareness of the pressures on the natural world, the organisations involved in the National Biodiversity Network have a need to understand how to respond to those changes. The 2013 conference was designed to get feedback from a range of NBN partners, in order to judge this issue and to consider "Future challenges for the NBN". With this in mind around 160 delegates from biodiversity organisations, local record centres, recording schemes, government bodies and commercial bodies involved with biodiversity, as well as private individuals concerned with recording came together at the Royal Society on 15th November.

The Keynote address was given by the Shadow Environment Minister,

Barry Gardiner MP, who also chairs the All-Party Parliamentary Group on Biodiversity. His address did not avoid the issues confronting the world and he recognised from the outset that a continued decline of biodiversity is real – the 2010 biodiversity targets set under the Convention on Biodiversity in 2002 had generally failed to be met, in Britain as around the world. Ideas are now shifting as to how to meet the challenge, moving away from one-species attempts to halt decline towards developing the long-standing idea of 'natural capital', now recognising the integrated 'ecosystem services' that the natural world provides and seeking to protect and enhance these. Mr Gardiner identified a key problem – the lack of recognition of the real (economic) value of the natural world in our economic policies, such that we still think of the products

of the environment (e.g. water, soil fertility, breathable air) as 'free goods', when in fact they are worth billions. This results in the depletion of 'natural capital' being viewed as 'income' on economic balance sheets, when it should be seen as a cost. So, how do we change this? We need to move to a new paradigm of true 'sustainability', with proper accounting. The National Ecosystem Assessment showed a 30% decline of the natural environment overall. Now the Government's Natural Capital Committee is seeking to get the true value of ecosystems installed in Treasury models of economics for all UK activities. One current theme is the idea of 'biodiversity offsetting' for developments, which has been

criticised, but which, implemented properly, could be a major benefit. It must not be seen as a licence to trash the environment. Our system of land tenure in general needs to reflect the need for land to be managed to maintain these ecosystem services. Mr Gardiner also gave an example from the management of our seas, where there is a dire need to maintain fish stocks. Understanding and recognising the integrated value of the elements (species etc.) that make up our natural environment is the key to delivering landscape-scale resilience, for which good biodiversity information is vital, which is why he welcomed the chance to address the NBN Conference.





From this broad, policy-focused perspective, the main Conference proceedings included presentations from Swift Ecology, Butterfly Conservation, Natural England, British Dragonfly Society, The Wildlife Trusts, Scottish Natural Heritage and the Field Studies Council.

The day also included presentation of Honorary NBN Membership to Dr Stuart Ball, more information on which can be found on page 32, and the 2013 Sir John Burnett Memorial Lecture, given by Professor Bill Sutherland

of Cambridge University, on the subject of 'Big data, NBN and effective conservation'. Professor Sutherland outlined the enormous changes to biological recording brought about, and continuing to be brought about by new technologies. The NBN, as a whole, is in the position of being a potentially key element in this overall system, and can therefore make a major contribution to the development of the Intergovernmental Platform on Biodiversity and Ecosystem Services. This will make use of

iterative data analysis techniques to identify and monitor changes in the environment generally. In order to maintain this input, though, the NBN will need to develop and make use of good, instant feedback processes to encourage and sustain community engagement.

From the presentations, it was clear that, if biodiversity needs are to be met with robust, ongoing wildlife data, much still needs to be done, giving the NBN significant challenges for the future.

The full report by Trevor James can be found on the [NBN website](#).



Strengthening research links: challenges and opportunities

“

The NBN can play an important role in facilitating a transition from volunteer recorders to true citizen scientists

”

The NBN provides a focus for collating and disseminating data about UK biodiversity among conservation agencies, NGOs and the community of voluntary wildlife recorders. In recent years, the NBN has sought to strengthen links with the UK research community. To pursue this agenda, the NBN Trust convened a workshop exploring the research applications of NBN data, which was hosted by the Natural History Museum on 20th January 2014. The aims of the workshop were to demonstrate ways in which NBN data can be useful to the research sector, and to identify challenges and opportunities for the future.

About 30 people attended the workshop. The majority of delegates were members of the

UK research community with an interest in using and analysing biodiversity data, but some data providers and policy makers were also represented. The agenda was split equally between presentations and discussion sessions. Not surprisingly, the discussions were dominated by terrestrial examples: this was recognised and a similar workshop focussing on the marine environment was suggested.

Following presentations by Paula Lightfoot, Chris Thomas, Nick Isaac and Bill Sutherland, two breakout groups picked up on the issues raised by them and each was followed by a plenary discussion. Several themes emerged:

- **Research Use of NBN data**
 - Despite improvements to

accessing the data, including through the rNBN package, several barriers were identified that have limited the use of NBN data and services in research until now:

- design of the NBN Gateway does not have research applications in mind;
- the process for accessing data remains difficult to navigate with the NBN Terms & Conditions having restricted research use to date
- citing the data is difficult
- individual datasets are not static meaning that the same data query posted on different dates is liable to return a different set



Strengthening research links: challenges and opportunities

of records, thus hampering any attempt to reproduce the results of a research paper using data downloaded from the NBN.

- **Data Quality and Derived Data Products** - Some progress towards understanding and mitigating the biases in NBN data has been made, to the point where it is conceivable to provide some kind of interpretation in addition to the raw data. The option to view (and download) modelled species' distributions, accounting for sampling intensity, would provide a useful context for understanding the raw data and would conceivably be useful in a range of applications.

- **How to facilitate improvements in data collection?** - The majority of data on the NBN Gateway were opportunistically collected by volunteers: we know nothing about the sampling intensity. The NBN can play an important role in facilitating a transition from volunteer recorders to true citizen scientists, by working with its component organisations to promote examples of good practice and initiating a discussion about what sorts of data would be desirable. A general growth in public participation in collecting biodiversity data places an increasing burden on this small pool of experts in relation to data validation. Supporting this community is a key challenge for the NBN partnership.

- **NBN & Structured data** - The NBN Gateway holds relatively little data from structured surveys. Two suggestions for development in this area were made:
 - Provide mechanisms for structured data, including that collected for scientific research, to be collated and disseminated. Some repositories for scientists to submit and share ecological data already exist, but no 'industry standard' has so far emerged.
 - Act as a forum or catalyst for designing and implementing new structured schemes, in the way that recently occurred with pollinators.
- **NBN & Policy** - The NBN has a role in bridging the gap between

government conservation agencies and the research community. It can act as a coordinated front representing its member organisations to the government. Whether the NBN can influence government policy is less clear. Most research applications are curiosity-driven, but NBN activities have, to date, been driven by the policy requirements. The current NBN Gateway takes a 'one-size fits all' approach that may not be sustainable in the long term, although the REST web services offer the potential to develop bespoke interfaces for niche requirements (e.g. rNBN). As UK biodiversity policy influences all members of the NBN, including the academic community can the NBN ensure government can take

effective action on pollination, invasive species and tree health?

The workshop concluded that the NBN was not designed with the research community in mind. Recent developments in the NBN Gateway have opened up the potential for greater use of the data, although there are still areas for improvement. A number of questions were raised about the role of NBN, and what strategic direction it should take. The NBN can play an important role in building links between the professional science and citizen science communities, in order to ensure that NBN data is fit for the environmental challenges of the 21st century.

The full report by Nick Isaac can be found on the [NBN website](#).



Reaching new audiences -

NBN at Ecobuild

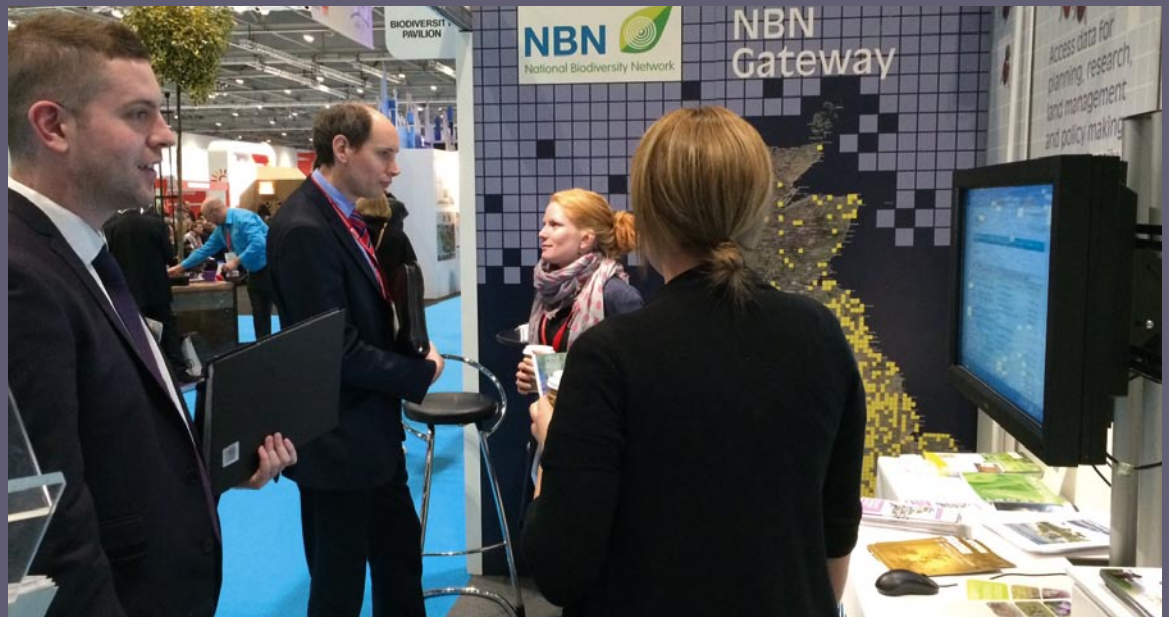
In March, for the first time, the NBN Trust exhibited at Ecobuild, which for the 2014 show was a celebration of 10 years of championing a greener built environment.

The annual exhibition brings together a wide spectrum of sustainable construction products for new build and refurbishment of residential, commercial and industrial projects. It also has a Biodiversity Pavilion, which is where the NBN was located alongside organisations such as RSPB, The Woodland Trust, Bat Conservation Trust, The British Beekeepers Association, Habitat Aid and The Ecology Consultancy, as well as new companies including Bird Brick Houses.

It proved to be an excellent opportunity to promote the NBN partnership to industry professionals and we were pleased to welcome,

amongst others, ecologists, architects, planners and members of Wildlife Trusts, as well as students and interested members of the public. It was encouraging to see how many people had heard of the NBN, had used the NBN Gateway and understood the relationship with LRCs and Schemes and Societies. It was also a privilege to explain all about the NBN to those who were not aware of what we all do as part of the Network.

We were very pleased to meet [Habitat Aid](#) at the show and are delighted that they will be involved in sponsoring the NBN Conference in 2014.



It was encouraging to see how many people had heard of the NBN, had used the NBN Gateway and understood the relationship with LRCs and Schemes and Societies.



Reviewing the NBN Strategy -

The Extraordinary General Meeting



We were left with the confirmation that a new strategy is needed and that it should clearly identify the roles and responsibilities of the different types of organisation within the Network.

In February, we built on the strategy work we'd started in 2013 by holding another Extraordinary General Meeting on Strategy at the Natural History Museum in London. As in 2013, representation was good with over 30 attendees across the range of NBN organisations. It also proved a good opportunity to introduce our new Chief Executive, John Sawyer and Rachel Stroud as Data and Liaison Officer.

Jim Munford introduced the day with Andy Clements (Trustee and Director of British Trust for Ornithology) reporting back on the work of the Trustee subgroup. Andy's presentation concluded with a series of key points around financial vulnerability

across the network, a breakdown in communication, the regular unauthorised use of atlases to collect data and a need for reward mechanisms for recorders. The two-day meeting progressed through a series of draft strategic themes with provocative presentations introducing plenary debate about the validity, objectives and appropriateness of the proposals.

The evening meal and opportunity for getting together in a more informal environment allowed the discussions to continue into the early hours before retiring in preparation for an early start on day two.

The second day saw more frank and open discussions around the key issues facing the network. Keith Porter provided a key perspective

about what Natural England needs from the NBN to inform: Assessment of biodiversity change, understanding ecological function, delivering ecosystem services, understanding negative impacts and targeting positive intervention.

Jim Munford closed the meeting with his perspectives from leading the NBN Trust for the previous 15 years. We were left with the confirmation that a new strategy is needed and that it should clearly identify the roles and responsibilities of the different types of organisation within the Network. Since the meeting, work on developing the strategy has continued apace and we expect to be able to consult on draft elements of it through the late summer and autumn of 2014.

Funding

Main achievements:

Successful completion of Defra project

Gap analysis showed 57% of LRC data holdings available through the NBN Gateway

Regional workshops reengaged LRCs and local recorders

Establishment of portal for ecological consultants

Development of NBN Record Cleaner rule sets

National Coordinator role for ALERC extended



Defra Review 2011-2014

March this 2014 marked the end of the most recent contract between the NBN Trust and Defra. Two and half years have passed very quickly and we've delivered a wide-ranging suite of projects to support the ongoing development of the Network through many of our

...we've delivered a wide-ranging suite of projects to support the ongoing development of the Network through many of our partners.

partners. The contract was founded on the five themes of: NBN Gateway Development, Improving data flow and exchange, Wider use of online recording and web services, Development of Record Cleaner rule sets and Supporting ALERC through the provision of a development officer.

The ongoing NBN Gateway Development and associated servicing of it through data loading, satisfying access requests and providing technical help to data providers has been the bedrock of contracts over the previous years. During this iteration, we saw the establishment of the JNCC contribution contract approach and a shift to direct funding from Defra. Changes to the funding mechanism didn't however hamper

development of the NBN Gateway, which resulted in the release of version 5 in late 2013.

The Improving data flow and exchange theme saw a mix of gap analysis and training events led by the NBN Trust, JNCC staff and LRC partners.

The gap analysis work involved 23 LRCs comparing their local data holdings with those on the NBN Gateway, determining access constraints of relevant datasets they wanted to use and preparing standard texts to streamline the access request process.

The analysis showed that the amount of additional data available through the NBN Gateway ranged from around 6,000 records representing 7% of the LRCs own data holdings to 367,000 records,

Helping LRCs to engage directly with their recorders...has also provided opportunities to renew and refresh existing relationships with key local recorders.

representing 57% of their own holdings. The mean figure was around 67,000 records, representing 21%. The number of additional datasets, which may contain relevant data, varied between 66 and 208 for the LRCs. The analysis clearly showed that there are datasets available through the NBN Gateway, which some LRCs may benefit from having access to.

The regional data management component of this theme saw basic data management workshops led by JNCC and the NBN Trust held in London and Birmingham and attended by over 70 members. Phase two of these workshops picked up on the requirement for training in how to setup online recording websites using Indicia. Events were held at the Centre for Ecology and

Hydrology with John van Breda and his team leading the teaching.

The regional workshops were supplemented with data management training events run by the LRCs. Over 30 events at locations including Cumbria in the far North West, Sussex in the South East and Dorset in the South West dealt with a series of locally important data management issues. Workshop topics included basic data entry and management, verification and the use of different online recording systems. Helping LRCs to engage directly with their recorders in this way has not only raised the competencies of the formal skills base being covered, it has also provided opportunities to renew and refresh existing relationships with key local recorders.

Defra Review 2011-2014

The Wider use of online recording and web services has seen a suite of smaller projects and initiatives delivered. We've continued our relationship with [Greenspace Information for Greater London \(GIGL\)](#) through working with them on the development of an online recording portal for a project they are undertaking with the Royal Parks. The implementation has seen Indicia components married with their existing .net technologies to demonstrate that elements of the tool kit can be truly integrated with other ways of working. In addition they've helped us provide a snapshot of some of the issues other Indicia implementers have encountered through a review of six LRCs across the country using the technology.

Another key element of this theme has been working with [Chartered Institute of Ecology and Environmental Management \(CIEEM\)](#) to establish a portal for ecological consultants to upload their survey records. The portal, again built on the Indicia platform, allows consultants to upload spreadsheets of species records, which can then be validated and verified using the standard iRecord toolsets, before being made available through the NBN Gateway.

Wrapping this work together has seen an element of coordination, which has led to the establishment of a draft set of online recording standards, and meetings to bring developers of non-Indicia systems together to discuss ways in which we can better work together.

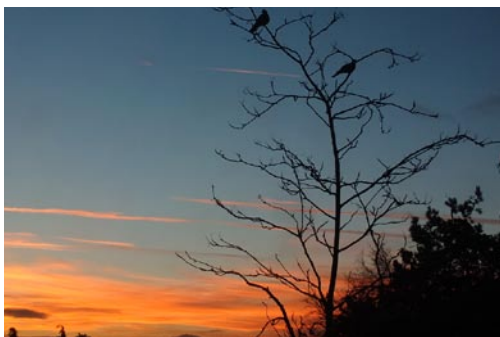


Staying with the data-in part of our remit is the Development of NBN Record Cleaner rule sets. These rule sets, which include information on existing distribution and date ranges when you would expect to see them, have been developed by the taxon experts, often using existing data from the NBN

Gateway. The contract has allowed for the collation of rules for nearly 8000 taxa from 22 taxon groups. The rule sets are available for use in iRecord and will be incorporated into NBN Record Cleaner.

The final element of this contract has been Supporting the Association of Local and Environmental Record

Centres (ALERC) through the provision of a Development Officer. Tom Hunt has been in post since 2012 and has helped deliver a rich and varied work programme including support for Natural England's relationship with LRCs and the progression of ALERC's accreditation programme.



The Coming Year





As Heraclitus of Ephesus said - change is the only constant. And so it has been with the NBN, the NBN Trust and the NBN Gateway and so it will be for some time to come.

Since the NBN was formed there has been a growing list of reasons for its ongoing development and expansion. The bottom line is that, by unlocking what must be close to one billion pounds worth of data collection and research resources to the wider community, the National Biodiversity Network will increasingly be able to support research and decision making in national resource and environmental management, conservation planning, environment monitoring, policy development, biosecurity, biodiscovery, and health and education. That has to be good for us all.

There are significant challenges to be faced by those involved in environmental management in

the United Kingdom. Sustainably managing a natural environment, whilst allowing for industry, tourism, growth and development requires a detailed understanding of the past, present and future state of nature. The scattered nature of biodiversity data, and its invisibility to environmental managers, should not be cited as a contributing factor in the decline of wildlife.

The challenges described above cannot be addressed by one organisation alone and the team at the NBN Trust wants to work with all of the Network's constituents to achieve great things. There is a small team of solutions-focused people at the heart of the NBN Trust and they have to juggle the many and varied interests and

requirements of a diverse network with finite resources.

We are presently a network for nature, delivering better decision-making about how best to protect, restore and interact with our land, air, water and oceans. The next 18 months will see a new strategy developed and implemented. That strategy will have a greater focus on: supporting and promoting Network members and the recording community; delivering stable, user-friendly data capture and storage tools that are more deeply connected to the existing national and regional information infrastructure; and delivering a system that is used by an ever-expanding audience to achieve positive environmental outcomes. We will be moving towards a

data-driven partnership for nature - providing a scientific basis for restoring the ecological integrity of the United Kingdom's natural heritage. The NBN Trust team looks forward to working alongside the national network over the coming year towards achieving that goal.

John Sawyer

...the team at the NBN Trust wants to work with all of the Network's constituents to achieve great things.

Technical developments in 2014 -15

“The ability to define a custom polygon and retrieve records directly through the NBN Gateway is planned for this year.”

The focus of the forthcoming year for the NBN Gateway will be to build upon the strong foundations laid with the development and release of NBN Gateway 5. Whilst the past year was one of upheaval for the NBN Gateway, this coming year will see far fewer changes.

Initially we are going to tackle the remaining performance and stability issues. By the time you read this, a new mapping system has been rolled out to improve the experience for the vast majority of map users. This system provides maps of all types across the NBN Gateway site, to GIS users, and soon via EasiMaps and web services to sites across the internet.

The crashes and site stability issues are also being tackled this year.

We have already fixed the causes of the majority of our issues. An issue around large downloads has been fixed, as has an issue that was affecting night-owl users between midnight and 5am. Our target is 95% uptime (excluding planned maintenance) for this year, and we are confident we will meet this target.

More user interface changes are planned to improve user experience. The taxon landing page and taxon search systems will be revisited. We feel that they are not performing to the high standards expected by our users. The Grid Map page will also get some more subtle changes to improve its usability and performance.

The NBN Trust, in conjunction with the development team, will be doing

a review of the NBN Gateway and Interactive Map Tool user interface. This will take the form of a user needs analysis to be performed in the coming year. The outputs of this analysis will be prioritised, and where possible, implemented this year and in future developments. That does not mean we are resting on current functionality, there are some new features in the pipeline. The ability to define a custom polygon and retrieve records directly through the NBN Gateway is planned for this year. This is a long requested feature from many partners across the community, and one the team feels has been long missing from the NBN Gateway.

Record quality is a concern to both providers and users of data. The NBN Gateway will support an attachment of verification status to

records by data providers. This will finally allow us to provide tooling to allow you to filter your maps and reports to only use records that are verified, or to exclude records that have been stated as incorrect. We will additionally restore functionality to allow record commenting back into the NBN Gateway, allowing users to flag up bad data and dataset administrators to remove those records from view.

We are intending to improve data loading by creating a self-service facility for data providers to load their own datasets. You will be able to submit datasets via a web form, and receive by email notification of any verification errors and notification that the dataset is available on the NBN Gateway.

We also hope to support 10m

and 1m records in a future release. Another element of our plan is to develop richer use of record attributes, allowing users to filter on supported and well understood attributes commonly used in datasets.

The rest of our focus for the year will be into online recording. The NBN Gateway development partners are looking to create an open and healthy ecosystem around the collection and verification of biological records in the UK using targeted investments of time and funds into online data management.

In conclusion, there is a rich and varied work plan for this year. As you read this, you can already see the first fruits of these developments and we hope that you will find the NBN Gateway to be an indispensable tool long into the future.

Working with Defra from 2014

Resourcing in both central and local Government remains difficult, but the NBN hopes to establish a new contract with Defra to continue the development of the NBN in 2014. It is very early days, but the aim is to marry the emerging NBN strategy with Defra's own strategic priorities. Initial discussions have centred around how best to support Defra families monitoring priorities with specific reference to *Biodiversity 2020: A strategy for England's wildlife and ecosystem services* amongst other Defra policies.

Nothing has been agreed yet, but a new contract is likely to be evolutionary rather than revolutionary and provide support in several key areas. These may

include looking at ways to support NBN infrastructure and the long-term supply and availability for biodiversity data to support decision making, better integration of NBN data with other decision support tools and looking at ways of funding across the NBN can become more resilient through diversification.

As with previous contracts, we hope to deliver the work in association with a number of NBN partners. Our challenge over the summer is to outline the contract areas and develop some of the detail around what needs to be delivered over the next period.



Financial Information



The accounts have been prepared under the historical cost convention and in accordance with the Financial Standard for Smaller Entities (effective January 2007) and Charities 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 "Donated services and facilities" (see note 10). We received intangible income, mainly in the form of staff resources and associated costs expended on NBN projects. The intangible income figures also include work undertaken by partners that have been funded by Defra through BioD Services Ltd (see page 58).

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 (see below).

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.

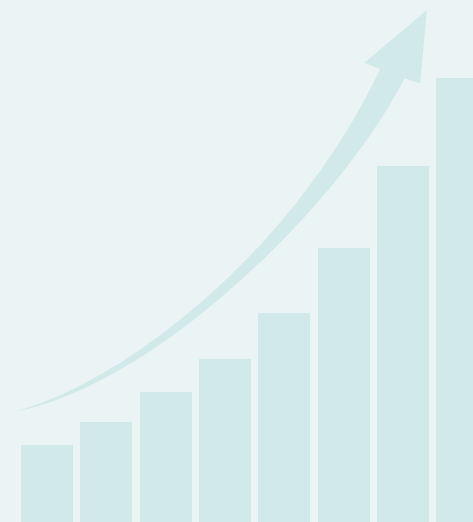
National Biodiversity Network Trust

Statement of Financial Activities (incorporating the Income and Expenditure Account) for the year to 31 March 2014

	Notes	2014 Unrestricted Funds £	2013 Unrestricted Funds £
Incoming Resources:			
Subscriptions		143130	166074
Donations and grants		500	26038
Interest received		712	1614
Donated Services and Facilities		2882543	2556092
Total Incoming Resources		3031960	2757968
Resources Expended:			
Costs of generating funds	(1)	0	0
Charitable Expenditure:			
Cost of activities in furtherance of the charity's objects	(2)	2956696	2628585
Management and administration	(3)	122474	134818
Total Resources Expended		3079170	2763403
Net outgoing resources for the year		-47210	-5435
Balance at 31 March 2013			204291
Balance Sheet as at 31 March 2014		157081	

Balance Sheet as at 31 March 2014

	Notes	2014 £	2013 £
Fixed Assets:			
Tangible Assets	(4)	3170	0
Current Assets:			
Debtors and prepayments	(5)	96835	148618
Cash at bank and in hand		90803	115640
		187638	264258
Creditors:			
Amounts falling due within one year	(6)	33727	59967
Net Current Assets		153911	204291
Capital and Reserves:			
General Fund		153911	204291



Notes

	2014 £	2013 £
--	-----------	-----------

1. Costs of Generating Funds

Staff costs	-0	-0
-------------	----	----

2. Cost of activities in furtherance of The Charity's Objects

Staff costs	2882543	2556092
Project Staff Costs	64523	42704
Web site development	3826	3380
Promotional materials	5804	4901
Opal Project costs	0	21508
Total	2956969	2628585

3. Management and Administration

Staff costs	53548	50585
Insurance	2319	1322
Printing, postage and stationery	7211	4799
Secretariat office expenses	15582	15820
Meeting and conference expenses	27658	24537
Legal and Consultancy fees	2025	32253
Accountancy	1890	1800
Training Costs	664	193
Sundry	795	699
Travelling expenses	2912	115
Trustees' travel and subsistence	4700	2695
Total	119304	134818

	2014 £	2013 £
--	-----------	-----------

4. Tangible Fixed Assets

At 31 March 2013	0	1107
Additions	6340	
At 31 March 2014	6340	

Depreciation		
Charge for year	3170	1107
At 31 March 2014	3170	

Net Book Values:		
At 31 March 2014	3170	0

5. Debtors and Prepayments

Trade Debtors	91336	144143
Prepayments	5499	4475
Total	96835	148618

6. Creditors

Trade	4078	25607
Other	29649	34360
Total	33727	59967

7. Called up Share Capital

The company is limited by guarantee.		
--------------------------------------	--	--

	2014 £	2013 £
--	-----------	-----------

8. Payments to Trustees for Expenses

Trustees travel and subsistence expenses reimbursed.	4700	2695
--	------	------

9. Transactions with Members and Associated Organisations

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

Consultant Services

Staff Costs and Overheads	5000	15299
---------------------------	------	-------

Natural Environment Research Council/ Centre for Ecology and Hydrology

Staff Costs and Overheads	0	21508
---------------------------	---	-------

Joint Nature Conservation Committee

Staff Costs and Overheads	0	975
---------------------------	---	-----

Scottish Natural Heritage

Staff Costs	25457	22000
Total	30457	59782

Notes

	2014 £	2013 £
--	-----------	-----------

- 10.** 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:

Environment Agency	6278	6862
Natural History Museum	42226	39920
Scottish Natural Heritage	48000	69730
Natural Resources Wales	194500	158166
Joint Nature Conservation Committee	1124475	1157000
Centre for Ecology and Hydrology	740791	740791
Natural England	587497	372838
British Trust for Ornithology	10640	10535
Department of Environment, Food and Rural Affairs with BioD Services	126646	114717
British Lichen Society	0	250
British Ecological Society	740	0
National Forum for Biological Recording	750	0
Total	2882543	2670809

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 2013-2014 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 2014

	2014 £	2013 £
Fees billed and project contribution	120517	132417

Less Project Costs:

NBN Gateway	0	0
DEFRA project costs	91738	50348
Staff Salary	54649	51600
General Sub Contract Work	6600	3820
Total	152987	105768
Surplus on Projects	-32470	26649

Profit on OS Map tile UK CD sets

Sales	56	118
Less Cost of Sales	19	38
Total	37	80

	2014 £	2013 £
Other Income		
Bank Interest	28	35

Less Overheads:

Website costs (Defra requirements)	174	109
Postage, Stationery and Printing	155	661
Travel and subsistence	7720	10094
Meeting Expenses	0	0
Accountancy	950	950
Legal and professional	73	89
Bank charges	190	180
Sundry	329	325
Depreciation	385	505
Total	10891	14063

Surplus for the year	-43333	12701
-----------------------------	---------------	--------------

Administrative Information

Directors/Trustees for the year ended 31st March 2014

Professor Michael Hassell CBE FRS *Chairman*

Andrew Wood *Treasurer*

Dr J Munford

Dr Mark Diamond

Paul Harding MBE

Hugh Lucas

Martin Parkinson - (retired 24.07.2013)

Paul Rose

Dr Michael Dobson - (retired 15.05.2013)

Mr Ian Owens

Dr Andy Clements

Richard Pywell

Teresa Frost

Dr Julia Blanchard - (retired 06.11.2013)

Mr Roddy Fairley

Tom Webb - (Co-opted 11.02.2014)

John Davy-Bowker - (Co-opted 15.05.2013)

Helen Wilkinson - (Co-opted 24.07.2013)

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.

Other information

Chairman: Professor Michael Hassell CBE FRS

Chief Executive: Dr James Munford /
John Sawyer (from 01.05.14)

Company Secretary: Dr James Munford /
John Sawyer (from 01.05.14)

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

Charity Number: 1082163
Company Number: 3963387

Auditors: Barker Maule & Co.
27 & 33 Castle Gate
Newark
Nottinghamshire
NG24 1BA

Bankers: NatWest
51 Market Place
Long Eaton
Nottinghamshire
NG10 1JP

Solicitors: DLA Piper
1 St Paul's Place
Sheffield S1 2JX

For more information on the National Biodiversity Network and to search the NBN Gateway visit: www.nbn.org.uk

Membership

Over the last year we have seen an increase in membership numbers from 84 to 86. The following table shows the number of members by membership type

Membership Type	Number
Supporter Member – Individual	7
Supporter Member – Organisation	44
Bronze Member	15
Silver Member	9
Gold Member	0
Diamond Member	11

Acknowledgements

We would like to thank the following people who have contributed to this Report:

Graham French	Lynn Heeley	Geoff Johnson
Teresa Frost	Mandy Henshall	James Munford
Paul Gilberston	Esther Hughes	Keith Porter
Charles Godfray	Tom Hunt	John Sawyer
Dave Goulson	Sarah Hyslop	Rachel Stroud
Paul Harding	Nick Isaac	Andrew Wood
Michael Hassell	Trevor James	




Image credits:

Page 1	Red Squirrel © Natural England/Allan Drewitt	Page 28	Landscape © Natural England
Page 4	Michael Hassell © Michael Hassell Blossom © Jane V. Adams	Page 29	Field survey © Natural England
Page 6	Jim Munford © NBN Trust Daffodils © Jane V. Adams	Page 34	Ant farming Aphids © Jane V. Adams
Page 10	Sunset image (far left) - Radipole Nature Reserve © Jane V. Adams Conference image (far right) - Professor Des Thompson © SNH All other images © Natural England/NBN Trust	Page 35	Arctic Tern © Natural England/Allan Drewitt
Page 11	Images © Natural England/NBN Trust	Page 38	Barry Gardiner MP © NBN Trust
Page 12	Sargassum, Yealm © Marine Biological Association	Page 39	INTECOL images © NBN Trust
Page 14	Bee © Natural England/Allan Drewitt	Page 41	Elephant Hawk Moth © Natural England/Allan Drewitt
Page 15	Starfish at BioBlitz Looe © Marine Biological Association	Page 42	Conference Audience © NBN Trust
Page 17	Salthouse, Norfolk © Natural England/Allan Drewitt	Page 42	Salford Meadows © Natural England
Page 18	Heptonstall Moor © Natural England/Andrew Mackintosh	Page 43	Conference images © NBN Trust
Page 19	Pascale conductivity test © Natural England/Paul Lacey	Page 44	Grey Seals © Natural England/Allan Drewitt
Page 20	Grass Snake © Mike Hammett Plymouth - P.miliaris © Marine Biological Association All other images © Jane V. Adams	Page 46	Ecobuild images © NBN Trust
Page 21	Honeybee on pink blossom © Jane V. Adams	Page 47	Knapweed © Natural England
Page 23	Bullfinch © Natural England/Allan Drewitt	Page 48	Bee © Jane V. Adams
Page 24	Brimstone Butterfly © Jane V. Adams	Page 50	Images © Jane V. Adams
		Page 52	Wood Anemone © Joe Sutton John Sawyer © John Sawyer
		Page 54	<i>Plateumaris Sericea</i> © Natural England/Julian Dowse
		Page 55	Nest © Jane V. Adams
		Page 60	Landscape © Natural England



