



National Forum for Biological Recording response to the National Biodiversity Network Action Plan 2015-2020

Prepared by members of the NFBR Advisory Council, June 2015

Actions that NFBR propose should be a priority for implementation in 2015-2020

We propose that the following **10** actions should be a priority for implementation in the next five years, for the following reasons:

1C.1 Develop an agreed and simplified data flow model (mission critical, one-off)	Data flow and data quality have long been a source of huge frustration to volunteer recorders, and we want to ensure that their views are represented. We propose that Action 2D.3 is also mission critical.
1A.1 Increase verification capacity (high, ongoing) and 2D.3 Publish data quality measures for records and data sets (high, one-off)	
4C.1 Prepare and implement a technical vision and strategy (mission critical, one-off)	This is long overdue. People need to understand and buy into the vision before they will sign up to any other technical actions in the plan, and this needs to be transparent to everyone, including volunteer recorders.
4A.2 Secure investment in UK infrastructure for biological data [capture and] management and 5C.3 Develop sustainable business models for delivery of the NBN work programme (including national to local levels)	The investment/business model actions go hand-in-hand and are obviously vital to the future of the NBN. There is also considerable inefficiency and duplication in the current system, which needs to be addressed.
1B.7 Target taxonomic and geographic gaps in NBN data, including data for ecosystem services and natural capital assessments (mission critical, one-off) and 2B.1 Make biological data more visible, freely and openly available (mission critical, ongoing) and 2C.3 Diversify the range of data and information products to provide a strategic resource to support decision-making (moderate, ongoing) and 2C.4 Develop NBN Biodiversity Data services to provide for biodiversity auditing, educational resources etc... (moderate, ongoing)	Our charitable object is to promote the use of biodiversity data for conservation benefit. If the data are not fit for a range of purposes and are not easy to access and use, then they won't be used, so these actions are priorities for us. This Action Plan will help to identify and remove barriers to data collection, sharing, interpretation and use, as well as promoting biological recording as a key societal skill that needs to be publicly valued and supported.

We are aware that the NBN Trust asked for 4-5 actions, but some of the above actions are interdependent and need to be tackled together.

NFBR Comments on the NBN Strategic Action Plan

Comments on **potential gaps** and need for clarification in the Action Plan:

- There is a strong focus on engaging new recorders and seemingly less focus on supporting mid-level skill development and the needs of verifiers/scheme organisers. This may be covered by actions 1A.1 'Increase verification capacity' (high priority), 1E.4 'establish taxonomic group mentoring schemes' (low priority) and 1E.5 'create a learning pathway to improve 'new recorder' skill levels' (moderate priority), but we believe that support for engagement and skill development is desirable at all levels and this needs to be clear. Delivery of these actions must be synchronised with actions about engaging new recorders and informed by the action about researching recorder demographics and motivation.
- Objective 2C 'Significantly increase data use for a wide range of purposes' includes 8 actions which all focus on encouraging data use by improving the quality and usability of data and creating relevant, user-friendly information services from the data. This is very important, but action must also be taken to ensure that statutory obligations about data use and biodiversity conservation are met, through awareness raising and enforcement of relevant legislation and policy. Partners in an action about enforcement of legislation and policy could include the statutory nature conservation bodies, ALERC, ALGE, CIEEM and DLA Piper.
- Objective 2B 'Increase the visibility and openness of, and speed of access to, UK biological data in perpetuity' includes 4 actions which focus on encouraging and incentivising data sharing. It is better to encourage and reward openness than to attempt to enforce it, but action to increase data openness should include measures to raise awareness of and compliance with relevant legislation (INSPIRE) and academic data policies, and ensuring that full public access to non-sensitive data is always made a prerequisite of philanthropic or public funding for biological recording and related work such as agri-environment schemes.
- Action 1A.10 'Develop a strategic approach to maintain the UK Species Inventory'. This relies on the taxonomists who maintain the checklists. Securing better support for taxonomy and systematics in the UK is the role of NBN partners such as the Linnean Society. Their ongoing work may be part of the 'strategic approach' mentioned in this action, but this could be made more explicit in the Action Plan.
- Action 4A.2 'Secure investment in UK infrastructure for biological data management'. This must explicitly include the curation of natural history collections as a resource for recorders and researchers. Ensuring the sustainability of natural history collections is the work of NBN partners such as NatSCA, their work should be recognised and supported by the Action Plan.
- Action 5C.5 'Develop alternative funding streams for NBN Trust and its members to reduce dependency on government funding'. We agree that this is vital, but biodiversity information is a public benefit so should receive some level of public funding from both national and local government. This action should also consider alternative funding streams within government (e.g. DECC, DCLG, DfE etc

rather than depending solely on Defra) and should include work to establish the right political climate and broader awareness of the full range of benefits of biological recording.

- Action 1E.2 'Research recorder motivation and demographics'. This research needs to cover not just motivation for biological recording, but also all associated activities which may be carried out by volunteers, e.g. data digitisation, validation and verification, training, mentoring, public engagement, organising and leading recording activities, providing the administrative functions of recording societies (treasurer, webmaster, newsletter editor etc), organising conferences and so on.

Comments on the **need for evidence** to underpin the Action Plan:

- We understand that working groups will be set up to deliver these actions, and that it will be the role of each working group to decide what they can achieve based on current knowledge. If they need further information to inform delivery of actions, they will each have to organise and resource the collection/collation of this evidence.
- We agree that some actions can be delivered based on the existing knowledge and experience of NBN members, without the need for further research.
- However, many of the 'mission critical' actions require sound, impartial evidence to inform them, notably those related to financial investment, business models, UK data needs and biological recording/verification capacity.
- As the NBN Trust is aware, NFBR has been developing a proposal for collaborative research leading to a UK Biodiversity Information Framework which would make the best use of available resources. We believe that the NBN Strategic Action Plan has the potential to deliver the UK Biodiversity Information Framework envisaged by NFBR, provided that the actions are informed by an objective appraisal of the current situation. One role for NFBR in the delivery of the NBN Action Plan, subject to resources, could be to coordinate relevant research. This research can be prioritised to synchronise with delivery of the Action Plan, based on the prioritisation of actions agreed as a result of this consultation. We hope the NBN Trust will work in partnership with NFBR to seek the funds to allow this to take place.

NFBR engagement with delivery of the NBN Strategic Action Plan

NBN Strategic Aim 1:

NBN will capture, diversify, enhance and mobilise biological data

The NBN will support the continued capture of biological records, mobilise historic and legacy data holdings, develop a sustainable verification network and improve the quality of data.

Strategic objectives

Objective 1A	Increase, streamline and standardise the capture of high quality, structured biological data.				
Why?	It has never been easier to submit biological records and this leads to increasing volumes of data. This comes at a risk that data quality will be compromised. Biological data capture and quality control is not standardised. Recorders are often unclear where to submit their data to best effect. There is frustration because multiple systems exist leading to duplication of both effort and data within the system.				
The NBN will	Priority	Time-scale	Are you already doing this? <i>Yes</i> <i>Yes, but could use more resources</i> <i>No</i>	Would you like a role? <i>Yes definitely</i> <i>Yes, if we had more resources</i> <i>No</i> <i>No, but we would like to be kept informed of progress</i>	Level of future involvement <i>I/We want to lead this action</i> <i>I/We want to be a partner</i> <i>I/We want to work on this alone</i> <i>I/We do not want to be involved</i>
1. Increase verification capacity through establishment of a UK Verification Network to share best practice, celebrate success and recruit	High	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
2. Streamline and standardise data capture processes and promote through use of league tables, data dashboards, summary statistics and data health checks	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved

3. Review and improve NBN data exchange standards to provide for more attributes (such as life stage, abundance and associations), metadata, resolution and openness	Mission Critical	One-off with review	No	No, but we would like to be kept informed of progress	We do not want to be involved
4. Establish an NBN Data Management Accreditation Scheme to improve data quality assurance and promote best practice for data capture and curation systems	Low	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved
5. Create an NBN toolbox of data capture systems and tools that meet NBN standards	Low	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
6. Maintain and improve NBN Record Cleaner rule sets and identify quality of records across all NBN systems	High	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
7. Prepare an online recording strategy for the UK to ensure system consistency and standardisation	High	One-off with review	No	Yes, if we had more resources	We want to be a partner
8. Commission and support new data capture (especially structured, representative surveys)	High	Ongoing	No	Yes, if we had more resources	We want to be a partner
9. Support sharing of biological data by ecological consultants	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
10. Develop a strategic approach to maintain the UK Species Inventory as the primary organisms register in the UK	High	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved
11. Develop a strategic approach to improve the UK Habitat Inventory and the integration of habitat classifications in the UK	High	One-off with review	No	No, but we would like to be kept informed of progress	We do not want to be involved

Objective 1B	Diversify the data available through the NBN				
Why?	Taxonomic and geographic gaps affect potential applications. Data holdings lack diversity and limited data is easily available about habitats and ecosystems, images and other data types. Large quantities of legacy and historic data are still to be digitised.				
The NBN will	Priority	Time-scale	Are you already doing this?	Would you like a role?	Level of future involvement
1. Build platforms for sharing of data types beyond species and habitat data (e.g., to integrate data from Earth Observation, genetic sequencing and eDNA)	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
2. Develop and implement a programme of work to capture ecosystem and habitat data	Low This should be high priority. Recent ALERC reviews suggest that at least 50% of England's area has not been habitat surveyed for over 20 years.	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved

3. Develop a UK strategy for mobilising historic survey data and secure resources for historic data digitisation and mobilisation (including crowdsourcing data capture). This includes development and promotion of online citizen data capture systems to support volunteers in the digitisation of historic datasets	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
4. Develop strategy for tackling recording bias, search effort and certainty of ID. Promote value of negative records and increase negative record data holdings	Mission Critical	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
5. Expand the network of NBN data providers	Mission Critical	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
6. Create regional and national sensitive species lists	High	One-off with review	No	No, but we would like to be kept informed of progress	We do not want to be involved
7. Target taxonomic and geographic gaps in NBN data to increase overall coverage in UK (including keystone taxa for ecosystem services and ecosystem data for natural capital assessments)	Mission Critical	Ongoing	No	Yes, if we had more resources	We want to be a partner. In particular, we would like to ensure that these actions are informed by a thorough review of what the UK's data requirements actually are and how they can be prioritised. Maximizing links with international colleagues to share expertise should be part of this.

Objective 1C	Ensure rapid flow ('time to market') of biological data from recorders to users				
Why?	Biological record data flow is complicated, too slow and data may never reach all potential end users.				
The NBN will	Priority	Time-scale	Are you already doing this?	Would you like a role?	Level of future involvement
1. Develop an agreed and simplified data flow model for the NBN family to ensure efficient and effective data flow at all spatial scales	Mission Critical	One-off NFBR feel this action needs regular review	No	Yes, if we had more resources	We want to be a partner
2. Accelerate data flow through NBN systems by publicising the data flow model, establishing data flow agreements and creating a data flow tool to track records through the system	Mission Critical	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved

Objective 1D		Support, motivate and celebrate the success of existing biological recorders			
Why?	Existing volunteer biological recorders are the lifeblood of biological recording in the UK and the NBN relies heavily of them. Ensuring they have the tools, resources and skills to do their work is essential otherwise data capture will not occur, existing recorders will burn out or motivation levels will fall.				
The NBN will	Priority	Time-scale	Are you already doing this?	Would you like a role?	Level of future involvement
1. Increase feedback to recorders (e.g., through creation of a UK Recorder Newsletter and through use of automated natural language generation)	Moderate	Ongoing	Yes, but could use more resources. NFBR currently publishes a newsletter and website for recorders. We would like to develop these further to become a primary, interactive, community-driven resource for biological recorders.	Yes, if we had more resources	We want to lead this action.
2. Celebrate the success of recorders through the development of an awards scheme for biological recording	High	One-off with review	No, but we have agreed to work in partnership with NBN Trust and BRC on the Biological Recording Awards for launch in 2015.	Yes, definitely	We want to be a partner

<p>3. Promote, develop and provide resources for recorders (handbooks, publications and tools)</p>	<p>Low</p>	<p>Ongoing</p>	<p>Yes, but could use more resources. NFBR currently publishes a newsletter and website for recorders. We would like to develop these further to become a primary, interactive, community-driven resource for biological recorders.</p>	<p>Yes, if we had more resources</p>	<p>We want to lead this action.</p>
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Objective 1E	Double the number of biological recorders through recruitment, training and retention				
Why?	Without engagement of new audiences and increasing recording capacity and capability the continued provision of high quality data will be compromised.				
The NBN will	Priority	Time-scale	Are you already doing this?	Would you like a role?	Level of future involvement
1. Develop and support learning programmes and systems for biodiversity identification	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
2. Research recorder motivation and demographics	Low	One-off	No	Yes, if we had more resources	We want to be a partner
3. Mobilise new audiences and demographics of recorders (e.g., through creating nature-recording ambassadors, promoting BioBlitz events, gamification and leader boards and promoting in education) Overlap with Action 3A.3?	Low	Ongoing	No	Yes, if we had more resources	We want to be a partner
4. Establish taxonomic group mentoring schemes	Low	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved
5. Create a learning pathway to improve 'new recorder' skill levels through training and support from Network members	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved

NBN Strategic Theme 2:

NBN will make biological data and information available to everyone

The NBN will organise and visualise biological data to create information for use by everyone and will make biological and environmental data interoperable. The systems run by the NBN member family will become the preferred means of accessing biological data in the UK.

Strategic objectives

Objective 2A		Treble visitation to the NBN family of projects and systems			
Why?	Understanding user needs is vital for developing user-friendly systems and processes. Making data usable is key to the Network's vision and will ensure ongoing support for, and investment in, the work of the NBN and its members. It will also demonstrate the value of biological recording.				
The NBN will	Priority	Time-scale	Are you already doing this? <i>Yes</i> <i>Yes, but could use more resources</i> <i>No</i>	Would you like a role? <i>Yes definitely</i> <i>Yes, if we had more resources</i> <i>No</i> <i>No, but we would like to be kept informed of progress</i>	Level of future involvement <i>I/We want to lead this action</i> <i>I/We want to be a partner</i> <i>I/We want to work on this alone</i> <i>I/We do not want to be involved</i>
1. Regularly assess data user needs and continuously improve the user interfaces of NBN products	High	Ongoing	No	Yes, if we had more resources	We want to be a partner. In particular we would like to ensure that the needs of biological recorders as data users are considered. Many of them put more into the NBN than they get out, because many contribute records but don't use the NBN Gateway or other products – they

					should be encouraged and supported to do so. Improving user interfaces on NBN products is key to this, but we are concerned that recorders' needs could get overlooked due to a focus on the needs of 'environmental decision-makers/ researchers/ government' on one hand and 'the public' on the other.
2. Ensure NBN Trust systems meet the business needs and requirements of key user groups	Mission Critical	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
3. Support the research community (including establishing a national NBN student research grant scheme)	Low	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
4. Communicate regularly with data users and promote their activities	High	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
5. Improve data interrogation and visualisation tools through: workshops with user groups, user-centred design, and interactive collaborative events such as hackathons	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
6. Report on visitation to NBN family of data systems	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
7. Provide users of NBN systems with a customised profile that can be saved	Low	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved

Objective 2B		Increase the visibility and openness of, and speed of access to, UK biological data in perpetuity			
Why?	If data cannot be seen and accessed then it will not be used. Data visibility and accessibility must be improved to increase interaction with and use of data				
The NBN will	Priority	Time-scale	Are you already doing this?	Would you like a lead role?	Level of involvement
1. Make biological data more visible, freely and openly available (with reduced caveats on data use)	Mission Critical	Ongoing	No	Yes, if we had more resources	We want to be a partner. Making data openly available has financial implications, so we would like to ensure that this action is informed by an efficiency and productivity analysis of current systems of data collection, collation, management and dissemination, and linked to actions 4A.2 and 5C.3 about securing investment and developing sustainable business models.
2. Provide accreditation for data providers and data users	Moderate	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved
3. Publish case studies to demonstrate how data are being used	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
4. Develop and deliver incentives for visible, open data	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved

Objective 2C		Significantly increase data use for a wide range of purposes.				
Why?		Biological data has the potential to be used multiple times, but it has not been applied as effectively as it might. This is due to a lack, or inconsistency, of data collection methodologies, problems with data accuracy, lack of data visibility and openness, slow uptake of new analysis and visualisation tools and limited awareness of how data may be applied.				
The NBN will		Priority	Time-scale	Are you already doing this?	Would you like a lead role?	Level of involvement
1. Improve research methods for use of ad-hoc (casual) biological records		Low	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
2. Demonstrate how biological data can be applied and visualised		Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
3. Diversify the range of data and information products to provide a strategic resource to support decision-making		Moderate	Ongoing	No	Yes, if we had more resources	We want to be a partner. In particular, we would like to ensure that these actions are informed by a thorough review of what the UK's data requirements actually are and how they can be prioritised. Maximizing links with international colleagues to share expertise should be part of this.
4. Develop NBN Biodiversity Data services to provide for: biodiversity auditing, educational resources, ecological research, natural capital assessments, pollination services, invasive species management, state of the environment, planning and biodiversity offsetting		Moderate	One-off	No	Yes, if we had more resources	We want to be a partner. In particular, we would like to ensure that these actions are informed by a thorough review of what the UK's data requirements actually are and how they can be prioritised. Maximizing links with international colleagues to share expertise should be part of this.

5. Create biodiversity information products from the combined NBN data holdings	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
6. Build a Biodiversity Planning Screening Tool to aid environmental and planning decision-making.	Moderate	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved
7. Regularly publish information about NBN data holdings	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
8. Develop a new NBN data access framework	High	One-off	No	No, but we would like to be kept informed of progress.	We do not want to be involved

Objective 2D		Enable and facilitate permissionless innovation by data users.			
Why?	Interpretation of data requires technical skills and support that are not always available to all data users. Data use will be increased if the NBN Trust provides interpretation, analysis and visualisation services that help answer questions or help inform practical issues such as planning or conservation management decisions. Value may be added to biological data by integrating it with environmental and other spatial layers and so provide services to increase end use of that data.				
The NBN will	Priority	Time-scale	Are you already doing this?	Would you like a lead role?	Level of involvement
1. Build a spatial platform to provide integration of species and ecosystem data with environmental data layers Overlap with Action 4C.2?	Low	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved
2. Provide data interpretation, analysis and visualisation services to meet NBN user needs	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
3. Publish data quality measures for records and data sets	High	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved
4. Provide and use forums for discussion of user needs	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
5. Continuously improve web services, support their uptake and develop a tool to allow the creation of a local cache of data, built off the NBN Gateway data	High	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
6. Evaluate and adopt existing open source data visualisation systems	Moderate	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved

7. Organise events (hackathons <i>etc.</i>) to engage with data managers, developers and coders to develop new tools	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
8. Create an NBN Toolbox for data analysis and interpretation and support tool creation	Low	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved

Objective 2E		Share all biological data internationally and collaborate with partners in Europe and GBIF			
Why?	Just as sharing data within the UK is valuable for research, education, conservation and environmental decision-making, so too is sharing both across Europe and globally. Being able to see species distributions and habitat and ecosystem data within the context of a wider geographic area would add value to the data.				
The NBN will	Priority	Time-scale	Are you already doing this?	Would you like a lead role?	Level of involvement
1. Collaborate throughout the British Isles, across Europe and globally (to maintain relations and to ensure the Network is adhering to best practice and assisting the global community with biodiversity data management)	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
2. Work with members of the NBN to maximise visibility of UK biological data on international platforms	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
3. Work to repatriate biological data for the UK held in databases throughout the world (and <i>vice versa</i>)	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
4. Establish and promote policies for open invasive species data across Europe.	Moderate	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved

NBN Strategic Aim 3:

NBN will captivate and engage people about wildlife

The NBN will promote the value of the UK's wildlife, the importance and enjoyment of biological recording and the power of biological data.

Strategic objectives

Objective 3A		Engage the public about biodiversity and biological recording				
Why?	People, engaged with biodiversity, are more likely to record, protect and restore. Greater awareness of biodiversity, and the importance of biodiversity data will lead to greater learning, understanding and biological recording.					
The NBN will	Priority	Time-scale	Are you already doing this? <i>Yes</i> <i>Yes, but could use more resources</i> <i>No</i>	Would you like a role? <i>Yes definitely</i> <i>Yes, if we had more resources</i> <i>No</i> <i>No, but we would like to be kept informed of progress</i>	Level of future involvement <i>I/We want to lead this action</i> <i>I/We want to be a partner</i> <i>I/We want to work on this alone</i> <i>I/We do not want to be involved</i>	
1. Publish and implement a Communications Strategy for NBN Trust to increase awareness of the Network	High	One-off with review	No	No, but we would like to be kept informed of progress	We do not want to be involved	
2. Promote biological recording and the benefits of sharing data to everyone interested in the UK's biodiversity	High	Ongoing	Yes, but could use more resources NFBR promotes biological recording and data sharing through our newsletter, website, conference, consultation responses and active	Yes, if we had more resources	We want to lead this action	

			participation in relevant groups such as the All Party Parliamentary Group on Biodiversity. We are also starting to work with national recording schemes to develop our role in representing and supporting them.		
3. Attract new generations of biological recorders and motivate to increase recording and share data Overlap with Action 1E.3?	Mission Critical	Ongoing	No	Yes, if we had more resources	We want to be a partner

Objective 3B		Promote the value of biological data			
Why?	Government and volunteers have invested heavily in biological recording, but there has not been a similar investment in data use. There is limited understanding or appreciation about the value of this type of data and without this the NBN systems of data collection, curation and dissemination may fall over.				
The NBN will	Priority	Time-scale	Are you already doing this?	Would you like a lead role?	Level of involvement
1. Promote and demonstrate the many different examples of how biological data can be used (through online tutorials and NBN eNews and other media)	High	Ongoing	Yes, but could use more resources	Yes, if we had more resources	We want to be a partner
2. Demonstrate the power of aggregated data on NBN Trust systems for understanding changes in UK biodiversity	High	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
3. Communicate regularly with data collectors to encourage data sharing	High	Ongoing	Yes, but could use more resources	Yes, if we had more resources	We want to be a partner

Objective 3C	Promote the NBN family as the principle providers of biological and environmental data in the UK				
Why?	NBN data infrastructure is unique. Promoting the NBN as a family of biological recorders, verifiers, curators, aggregators and users for biological and environmental data will increase engagement with potential supporters, sponsors, data users and new members. Maximising use of the NBN Gateway and the data infrastructure of Network members will provide increasing justification for further investment in them				
The NBN will	Priority	Time-scale	Are you already doing this?	Would you like a lead role?	Level of involvement
1. Promote the data infrastructure and the tools available and show how anyone can use them	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
2. Educate people about how they can view and access data on NBN systems (including NBN member systems)	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
3. Broaden the audience and demand for national biodiversity data	High	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved

Objective 3D Promote the NBN and increase participation through membership and sponsorship					
Why?	The NBN Trust currently has over 130 members but there is still limited awareness of the NBN in the UK and what it does. There are many organisations and people that may want to become members that would help diversify the funding base. Increased participation makes the NBN Trust more attractive to sponsors.				
The NBN will	Priority	Time-scale	Are you already doing this?	Would you like a lead role?	Level of involvement
1. Promote the NBN by explaining what it is, by profiling member organisations and the important work they do and show how non-experts can participate	High	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
3. Celebrate success through NBN awards for biological recording and "Volunteer of the month" Overlap with Action 1D.2?	Low	Ongoing	No [but we have agreed to work in partnership with NBN Trust and BRC on the Biological Recording Awards for launch in 2015]	Yes, definitely	We want to be a partner
3. Promote the value of NBN Trust membership through advertising the data providers, specific projects and events	High	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
4. Develop and promote the NBN brand	Mission Critical	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved

NBN Strategic Aim 4:

NBN will provide the best biological information management infrastructure

The NBN will ensure its technical data recording, storage and dissemination infrastructure is the best it can be.

Strategic objectives

Objective 4A Provide a stable and secure platform for the NBN infrastructure					
Why?		In order to be trusted as important and useful data repositories, the NBN Gateway, and other data infrastructure and tools managed by NBN members, must be stable, secure and available 24/7. User expectations are that online systems should be continuously available. The protection of personal information held in databases of this kind is a legal requirement.			
The NBN will	Priority	Time-scale	Are you already doing this? <i>Yes</i> <i>Yes, but could use more resources</i> <i>No</i>	Would you like a role? <i>Yes definitely</i> <i>Yes, if we had more resources</i> <i>No</i> <i>No, but we would like to be kept informed of progress</i>	Level of future involvement <i>I/We want to lead this action</i> <i>I/We want to be a partner</i> <i>I/We want to work on this alone</i> <i>I/We do not want to be involved</i>
1. Provide a stable platform for all databases and products in the NBN infrastructure family (including systems of all NBN Trust members)	Mission Critical	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved
2. Secure investment in UK infrastructure for biological data management	Mission Critical	Ongoing	No	Yes, if we had more resources	We want to be a partner. In particular, we would like to ensure that actions related to investment and business models are informed by a thorough, impartial review of current and past expenditure on biological data capture, management and dissemination, and return on investment.

3. Create and facilitate an NBN Technical and Innovation Working Group to oversee delivery of technical infrastructure	Mission Critical	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved
4. Hold regular meetings of the NBN Gateway Project Group and NBN Gateway User Group	Mission Critical	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
5. Undertake regular security checks of all NBN Trust systems and tools (including member systems)	Mission Critical	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved

Objective 4B	Standardise the tools and systems used by the NBN				
Why?	Lack of standardisation leads to limited ability to link databases and datasets and to exchange data. It is highly inefficient to maintain multiple systems using different standards. This also affects user experience.				
The NBN will	Priority	Time-scale	Are you already doing this?	Would you like a lead role?	Level of involvement
1. Provide training to users in how to make the most of the current infrastructure	Low	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
2. Increase the interoperability of NBN Trust member data systems, tools and infrastructure	Mission Critical	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved

Objective 4C Improve the interoperability of the NBN family of data infrastructure					
Why?	Providing interoperability between NBN systems will help the evolution of the information management infrastructure. The NBN will continue to have a mixed infrastructure environment for some time, therefore ensuring that these systems can work together will be important to save money and to make the most of existing systems. There is also a need to integrate data collection and storage systems with Earth Observation systems that are being built.				
The NBN will	Priority	Time-scale	Are you already doing this?	Would you like a lead role?	Level of involvement
1. Prepare and implement a technical vision and strategy for NBN data infrastructure for data capture, management and dissemination (in conjunction with NBN Trust members and international partners)	Mission Critical	One-off with review	No	No, but we would like to be kept informed of progress	We do not want to be involved
2. Develop a spatial portal to integrate species and ecosystem data with environmental layers Overlap with Action 2D.1?	Moderate	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved
3. Establish a Tools Standards group to ensure interoperability of NBN Trust systems.	Low	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved
4. Set standards for data sharing and develop a unique record code system for individual records and datasets in NBN Trust systems	Mission critical	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved
5. Improve the user interface of NBN systems and improve mechanisms for publishing data to NBN Gateway	High	One-off with review	No	No, but we would like to be kept informed of progress	We do not want to be involved
6. Develop an interconnected web between the NBN Trust family of projects and infrastructure (e.g., a unique login system for all NBN Trust data systems)	Mission Critical	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved

NBN Strategic Aim 5:

NBN will support the development of the NBN Trust, its board and the Secretariat

The NBN Trust will support its ongoing development, its wider membership, its business processes, the Board and the Secretariat.

Strategic objectives

Objective 5A	Make the NBN a sustainable organisation that provides support for all members.				
Why?	It is imperative that the core structure and governance of the NBN Trust (including Secretariat and Board of Trustees) is strong so that it can provide appropriate support to the Network. This operational effectiveness is critical to the NBN Trust if it is to be successful in achieving its aims and objectives.				
The NBN will	Priority	Time-scale	Are you already doing this? <i>Yes</i> <i>Yes, but could use more resources</i> <i>No</i>	Would you like a role? <i>Yes definitely</i> <i>Yes, if we had more resources</i> <i>No</i> <i>No, but we would like to be kept informed of progress</i>	Level of future involvement <i>I/We want to lead this action</i> <i>I/We want to be a partner</i> <i>I/We want to work on this alone</i> <i>I/We do not want to be involved</i>
1. Provide strong financial and budget control of the NBN Trust funds	Mission Critical	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
2. Maintain a Board of Trustees, representative of the NBN with the appropriate skills and required competencies in order to progress the NBN partnership	Mission Critical	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
3. Review NBN Trust governance so it is fair, open and transparent	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved

4. Provide and maintain a safe and healthy environment for the Secretariat and visitors	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
5. Provide support to NBN Trust members, donors, data providers and partners	High	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
6. Deliver a programme of training and events to support the network	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
7. Evaluate Network effectiveness in implementing the NBN Strategy through annual business plans and Board governance	High	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
8. Research the priorities of NBN Trust partner organisations and ensure that the service provided is appropriate, cost effective and fit for purpose	Moderate	One-off	No	No, but we would like to be kept informed of progress	We do not want to be involved

Objective 5B	Double the NBN membership in five years				
Why?	For the Network to secure its future it must broaden its membership. Significant amounts of biodiversity data are currently not shared through the NBN and it will be valuable to expand the Network to include those who hold that data. A stronger brand will also provide opportunities to secure funding and deliver more value to its members.				
The NBN will	Priority	Time-scale	Are you already doing this?	Would you like a lead role?	Level of involvement
1. Review the NBN membership scheme to ensure it is fit for purpose and accessible to all current and potential members with clear benefits	High	One-off with review	No	No, but we would like to be kept informed of progress	We do not want to be involved
2. Raise the profile and awareness of the NBN and promote the benefits of being a NBN Trust member (i.e. not just access to the NBN Gateway)	High	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
3. Work with potential partners in research, environmental consultancy and the commercial sector to develop their understanding of how they can derive benefit from their participation in the Network	Moderate	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved

Objective 5C		Provide leadership in coordinating and growing the NBN			
Why?	Providing leadership for the NBN is key to ensuring that the Network as a whole is supported in all aspects from sending and managing data on the NBN Gateway to networking opportunities. Having a strong leadership role from within the Trust will ensure that information can be shared, joint funding and contracts can be negotiated and all partners can work together to achieve the aims of the NBN Strategy.				
The NBN will	Priority	Time-scale	Are you already doing this?	Would you like a lead role?	Level of involvement
1. Promote the NBN Strategy as the vehicle for collaboration over biological data collection, sharing and use	High	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
2. Engage and involve all NBN Trust members in delivering the Strategy	Mission Critical	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
3. Develop sustainable business models for delivery of the NBN work programme (including national to local levels)	Mission Critical	Ongoing	No	Yes, if we had more resources	We want to be a partner. In particular, we would like to ensure that actions related to investment and business models are informed by a thorough, impartial review of current and past expenditure on biological data capture, management and dissemination, and return on investment.
4. Develop and implement a sustainable funding model for the NBN Trust and prepare a medium-term financial strategy	Mission Critical	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved

5. Develop alternative funding streams for NBN Trust and its members to reduce dependency on government funding	High	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
6. Clarify Network roles and membership to promote ownership and engagement by the member organisations	Mission Critical	Ongoing	No	No, but we would like to be kept informed of progress	We do not want to be involved
7. Develop NBN Trust data management and dissemination policy for UK	High	One-off with review	No	No, but we would like to be kept informed of progress	We do not want to be involved
8. Bring together individuals and organisations involved in biological recording, curation, aggregation, analysis and use of data through the networking and coordinating role of the NBN Trust	Mission critical	Ongoing	Yes, but could use more resources.	No, but we would like to be kept informed of progress	We do not want to be involved