NBN ATLAS STRATEGY
2025 – 2030

nbnatlas.org

NBN Atlas Strategy 2025 - 2030

Executive Summary

The NBN Trust has been actively engaged in making data work for nature for the last 25 years.

Through strong partnerships, we provide openly accessible biodiversity data, with millions of species records shared by our data partners. Our flagship initiative is the National Biodiversity Network Atlas (NBN Atlas): the UK's national repository for biodiversity data.

The NBN Atlas is uniquely powerful because it brings together biodiversity data from a vast network of conservation and research organisations across the UK. Nowhere else can users access such a rich and diverse collection of UK biodiversity data in one place. This centralisation significantly reduces the time and cost for users, while enabling the data to be used in ways that go far beyond the original intentions of the data collectors.

By making biodiversity data more convenient, accessible, and interoperable, we empower action for nature and amplify the impact of conservation efforts, accelerating progress toward nature's recovery.

With this strategy, our mission is to ensure that the NBN Atlas is the cornerstone of the UK's biodiversity data infrastructure — transforming how we understand, protect, and enhance the natural world through data innovation and cutting-edge technology.

To achieve this, we will:

- **Harness technological advances** to evolve the NBN Atlas into a more powerful, scalable, and user-friendly platform

- **Accelerate data capture and integration**, enabling rapid growth in both the volume and richness of biodiversity data

- **Lead the community** in clarifying data flow pathways and setting robust data standards to ensure data is truly open, accessible, and usable.

The National Biodiversity Network Trust - What we do

The NBN Atlas is managed and developed by the [National Biodiversity Network Trust (NBN Trust)](#), a UK charity whose priority is to grow national commitment to sharing wildlife data and information. The NBN Trust is specifically focused on data with the mission statement of **Making data work for nature.**

In 2022 we published our five-year Strategy, [Making data work for nature](#), which sets out our strategic direction and ambitions. Development and enhancement of the NBN Atlas is at the heart of our strategy, and is reflected in our four strategic ambitions:

- Ambition 1: The NBN Atlas is the 'go to' place for sharing, finding and accessing UK biodiversity data

- Ambition 2: Biodiversity data is providing the evidence needed for nature's recovery

- Ambition 3: Citizen science is valued, supported and expanded as the major source of biodiversity data

- Ambition 4: The National Biodiversity Network is a well-connected and highly collaborative community with a united voice on key issues.

The NBN Atlas is a vital source of evidence for UK conservation, providing the data needed to plan, deliver and evaluate actions to help solve the biodiversity crisis. It is accessed by thousands of users across the public, academic, charitable and private sectors, who view and download billions of records from the NBN Atlas each year. We ensure that data shared is fully attributed to the original source to enhance the discoverability across our network.

In our mission to make data work for nature, the NBN Trust is also the UK node for the Global Biodiversity Information Facility (GBIF), the international network and data infrastructure that provides open access to biodiversity data globally. We collaborate with data partners to facilitate the integration of UK datasets into GBIF's international portal, significantly amplifying their reach and value for global research. Our active engagement with the GBIF network also allows us to benefit from international expertise and innovation, helping to advance biodiversity data mobilisation in the UK.

Since April 2021, the NBN Trust has promoted the [iNaturalistUK](#) portal, deepening our engagement with the broader wildlife recording community and ensuring that data gathered through this fast-growing citizen science platform is integrated into our biodiversity data systems. In partnership with the Marine Biological Association (MBA) and the Biological Records Centre (BRC), relevant iNaturalistUK data undergoes a rigorous verification process before being incorporated into the NBN Atlas. This model has become a key method for fulfilling our commitment to valuing and supporting citizen science, encompassing contributions from both expert wildlife recorders and casual observers. We're currently working on a strategic plan for iNaturalistUK, which will be published upon completion.

Current State Assessment

As highlighted by the Geospatial Commission's 2021 report[1], biodiversity data in the UK is still a long way from being truly FAIR (Findable, Accessible, Interoperable and Reusable). As little as 50% of existing data is accessible to the statutory nature conservation bodies[2], and much work is required to remove barriers to wider data sharing.

The NBN Atlas, launched in 2017, is built on the open-source [Atlas of Living Australia](#) (ALA) platform, and is one of a worldwide family of more than 20 [Living Atlases](#) from Argentina to Sweden. The NBN Atlas is the largest of these, holding over 300 million records in 2025 – nearly double that of any other national atlas. With 180 organisations actively contributing datasets, it provides transparent access to biodiversity information for everyone – from conservation practitioners to the general public – supporting informed decisions and positive action for UK nature.

Over the past eight years, the NBN Atlas has seen varied investment. Early customisations tailored to UK needs caused the platform to diverge from the core ALA codebase, making upgrades impossible and excluding it from global improvements. This led to performance and stability issues, shifting the focus from innovation to maintenance.

In 2022, the Fit for the Future Project marked a turning point. A new development team modernised operations, re-aligned the codebase with ALA, and upgraded the platform. The result: improved performance, security, and functionality, delivering a better experience for thousands of users.

Learning from this past experience, the NBN Atlas strategy will ensure all future enhancements and fixes developed by the Living Atlas community can be integrated with the NBN Atlas as required. We should also explore emerging technologies that could support a next-generation platform beyond the ALA model.

The NBN Atlas utilises the Darwin Core standard for biodiversity information[3], enabling seamless data sharing and interoperability across the UK and globally via GBIF. This standard supports efficient indexing, searching, and filtering of biodiversity data, informing research, practice and policy worldwide[4].

We are at a critical point in time. As the biodiversity crisis intensifies, the demand for high-quality, accessible data is growing. At the same time, new data sources such as environmental DNA, bioacoustics, and AI-assisted species classification are transforming how biodiversity is monitored. The NBN Atlas must evolve to handle these new data types while upholding the highest standards of data quality, accessibility, and interoperability as well as continue to support the data flows and handling of data from ground-truthed and traditional survey techniques.

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[1] [Mapping the Species Data Pathway: Connecting species data flows in England. Publishing.service.gov.uk](#)
[2] [JNCC Report No. 670 Review of biodiversity data use in the Country Nature Conservation Bodies](#)
[3] [TDWG Darwin Core](#)
[4] [Svenningsen Cecilie S. and Schigel Dmitry 2024Sharing insect data through GBIF: novel monitoring methods, opportunities and standards Phil. Trans. R. Soc. B37920230104](#)

Strengths

The NBN Atlas is firmly recognised within the UK conservation community as the principal repository for species biodiversity data. Alongside this central role, the NBN Trust has achieved several key milestones that underpin its leadership in the field:

- Built a trusted network of over 180 data-sharing partners, fostering collaboration across sectors
- Curated a substantial, resource of 300 million records
- Developed a robust infrastructure that enables efficient data sharing and open access
- Cultivated a strong culture of community commitment to open data principles, driving transparency and inclusivity
- Expanded and strengthened the NBN Trust development team, while deepening engagement with the global Living Atlas Community of Practice.

Together, these achievements form the foundation of a national data platform that is trusted, expansive, and forward-looking, ensuring biodiversity data remains a cornerstone for informed conservation decision-making.
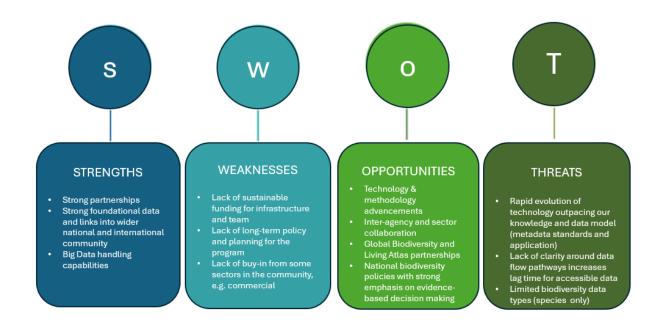
Challenges

While the NBN Atlas continues to serve as an essential biodiversity data platform, we recognise several ongoing challenges and are actively exploring solutions to address them. Many of these issues were highlighted in the Geospatial Commission's 2021 Report, both in terms of broader community-level data accessibility and more specific hurdles related to our position as a charity operating within an unstable funding environment.

Key challenges include:

- **Lack of long-term, sustainable funding -** Continued investment is essential to maintain and develop the NBN Atlas infrastructure and services
- **Varying data quality and standardisation -** Data contributions vary across partners, creating barriers to seamless integration and analysis
- **Labour-intensive validation processes -** Validating submitted data requires significant resources, which slows data mobilisation
- **Emerging data complexity and informatics demands -** New data types introduce challenges around standards and technical capabilities
- **Need for scalable infrastructure -** Anticipated data volume growth – at least tenfold – requires robust, future-proof systems
- **Resource limitations for ongoing data verification -** Ensuring accuracy and reliability of incoming records is constrained by current capacity
- **Gaps in sector representation and recording groups -** Certain taxa and regions remain underrepresented, limiting the overall biodiversity picture
- **Fragmented and slow data flows -** Complex pathways restrict timely sharing and integration of records into the NBN Atlas.

STRENGTHS
- Strong partnerships
- Strong foundational data and links into wider national and international community
- Big Data handling capabilities

WEAKNESSES
- Lack of sustainable funding for infrastructure and team
- Lack of long-term policy and planning for the program
- Lack of buy-in from some sectors in the community, e.g. commercial

OPPORTUNITIES
- Technology & methodology advancements
- Inter-agency and sector collaboration
- Global Biodiversity and Living Atlas partnerships
- National biodiversity policies with strong emphasis on evidence-based decision making

THREATS
- Rapid evolution of technology outpacing our knowledge and data model (metadata standards and application)
- Lack of clarity around data flow pathways increases lag time for accessible data
- Limited biodiversity data types (species only)

Strategic Pillars

As the NBN Atlas is the delivery tool for the NBN Trust, this strategy aligns with the 4 key ambitions of the NBN Trust Strategy 2022 - 2027. Whilst the ambitions of the NBN Trust are predicated on securing the funds to grow, we will build on these in the following strategic pillars.

The NBN Atlas as a vital UK wildlife information tool

The NBN Atlas should be an accessible and intuitive platform for all users, enabling quick and easy discovery of key information about UK species, including their distribution and conservation status in the UK. Its design and functionality should provide conservation-relevant information that helps inform meaningful actions in support of nature recovery.

How we aim to achieve this:

- Increase the mobilisation of FAIR, high precision species data
- Improve content and develop targeted information products for UK species
- Enhance mapping capabilities and integration tools so users can seamlessly embed NBN Atlas maps and data into external platforms
- Provide clear metrics and information on the impact of data.

The NBN Atlas supports organisations working to restore and protect biodiversity

The NBN Atlas plays a pivotal role in enabling organisations dedicated to restoring and protecting the UK's natural environment. It acts as a collaborative platform where partners can showcase their initiatives, highlight pathways for involvement, and demonstrate the impact of their actions on biodiversity recovery. By fostering shared visibility and interconnection, it strengthens the overall network and elevates the practical value of data.

How we aim to achieve this:

- Expand and enhance data partner profiles, providing clear signposts to engagement opportunities and access to additional services
- Build an insights workflow to give automated feedback on data provided and its impact
- Improve mapping and tools, enabling others to embed NBN Atlas maps seamlessly into their own platforms
- Implement instant notification services, alerting users when new or updated biodiversity data become available.

The NBN Atlas supports all biological recording

The NBN Atlas strengthens the connection between data, people, and wildlife recording projects by sharing resources and enabling collaboration and knowledge sharing around species observations.

How we aim to achieve this:

- Increase engagement with rapidly growing NBN Atlas user groups, by tailoring tools, resources, and communications to meet their needs
- Foster knowledge sharing and capacity building in wildlife recording and conservation projects
- Share guidance on biodiversity informatics by helping users to find, interpret and use high quality data for research, practice and policy.
- Develop partnerships to drive standardisation and integration of next-generation biodiversity data through shared infrastructure and open practices.

The NBN Atlas is a leader in UK biodiversity data sharing

The NBN Atlas plays a central role in UK biodiversity data infrastructure, supporting best practices in data sharing and access. To strengthen this role and modernise our platform, we must continue to build in-house skills and expertise, enabling us to adapt, collaborate, and leverage emerging tools, technologies, and infrastructure innovations with partner organisations.

How we aim to achieve this:

- Cultivate sector-wide technical skills and share knowledge to support biodiversity data platform development
- Actively engage with developments for the Living Atlas platform and GBIF, ensuring alignment and adaptability
- Update the data model to handle ingestion of new data types and management of increased volumes of data
- Improve user experience by identifying and resolving performance bottlenecks.

The NBN Atlas is the UK State of Nature data portal

Positioned as the definitive source for UK biodiversity data, the NBN Atlas is not only a repository, but also a catalyst for insight. It should empower local and national reporting on biodiversity trends, providing clear, actionable metrics and user-friendly tools to explore and analyse data effectively, whether for professional research, conservation practice, policymaking, or individual use.

How we aim to achieve this:

- Build biodiversity data dashboards tailored to support different use cases
- Produce dynamic impact metrics to track data quality and usability
- Work with partners to produce data workflows for biodiversity change metrics and research impact
- Build tools and guidance on use of APIs to support data analysis and creation of high-quality maps.

The NBN Atlas is innovative and embedded in nature recovery

The NBN Atlas must now evolve to support the next wave of ecological monitoring and protection. By positioning itself at the forefront of technological adoption, it can help unlock powerful new ways to understand, manage, and restore biodiversity.

How we aim to achieve this:

- Work with technical partners to integrate new technology into workflows (data lakes, indexing etc.)
- Evaluate and adopt AI and machine learning in the way we validate, process and analyse data
- Create an open API ecosystem for seamless integration between the NBN Atlas and UK and global conservation platforms and technologies
- Secure funding to explore Proof of Concepts (POC) to service the UK biodiversity data landscape.

Data Security and Data Governance

This strategy has been co-designed with the NBN Atlas Stakeholder Advisory Group, to ensure that the NBN Atlas continues to be fit-for-purpose for its users. In addition, in 2024, the NBN Trust established a Data and Technology Sub-Committee to provide strategic oversight and input into the Trust's digital direction. This Committee ensures that governance frameworks, policies and cybersecurity protocols are robust, up to date, and effectively implemented.

How we will ensure good data governance:

- Utilise the NBN Atlas Stakeholder Advisory Group (reformed in late 2024) in twice yearly gatherings, as a platform for feedback on the support and enhancements needed by the community
- Regularly inform and gather feedback from NBN participants to ensure we focus on issues important to the wider community of NBN Atlas users
- Maintain quarterly updates with the Data and Technology Sub-Committee and undertake an annual review of the NBN Atlas Strategy Implementation Plan to ensure it fulfils the needs of the community and aligns with the wider NBN Trust strategy
- Review the NBN Atlas strategy ensuring it is adaptive to emerging technologies, stakeholder feedback, and changing environmental and funding conditions
- Undertake regular reviews and mitigation actions relating to data governance and cyber-security assurance across the NBN Atlas
- Undertake regular reviews and mitigation actions based on technical capability assessments and resource allocation across the NBN Trust's operations.

Investment in Innovation

We're committed to making the NBN Atlas the UK's most widely used platform for biodiversity data. Through strategic partnerships with the ALA and GBIF, we aim to continually develop the NBN Atlas and maximise its potential. To support this, we will pursue innovation funding to scope exploratory work focused on unlocking new capabilities for the NBN Atlas by:

- Leveraging cloud deployment to facilitate scalable, maintainable, and future-ready systems
- Evaluating and adopting AI and machine learning in the way we validate, process, analyse and share data, working with the wider global partnerships for complex modelling and research institutes to create dynamic, AI- powered conservation recommendation engines
- Review and build on API capabilities to enable the NBN Atlas to be a portal to gather and share data from real-time species monitoring programmes and build state of the art alert systems for new data.
- Being a key player in international collaboration through open-source technology sharing.

This investment will firmly position the NBN Atlas as the lead contributor to biodiversity intelligence in the UK. It will strengthen our biodiversity data infrastructure and help drive conservation impact through data-informed decision-making.

Measuring our Impact

We will measure the success of delivering on this strategy through the following metrics:

- Increased data acquisition – more frequent and complete updates from data partners
- Increased data quality – higher precision data is made available and actively contributes to the evidence-based decision making of conservation bodies.
- Increased data use – metrics on NBN Atlas use, number of NBN Atlas data driven indicators in use, research use cases and user stories.

Summary

Through this bold and ambitious vision, we're not just collecting data - we're building the UK's digital biodiversity data system. By connecting people with nature and equipping them with powerful tools and insights, we are enabling informed, effective and targeted action to protect and restore nature.