



SBIF Recommendations 2024:

Progress towards a better biodiversity data infrastructure

Introduction

The Scottish Biodiversity Information Forum (SBIF) recommendations, published in 2018^[1], are designed as a visionary guide to enhance the management, accessibility, and integration of biodiversity data across various sectors and stakeholders in Scotland. These recommendations lay the groundwork for a cohesive approach to biodiversity information, aiming to support conservation efforts, sustainable development, and policymaking with comprehensive, timely, and precise data. The recommendations address critical challenges faced by the biodiversity data infrastructure, including shortcomings in data flows, service provision, funding and governance and culture.

The purpose of updating the SBIF recommendations is to refine them in response to the evolving policy frameworks and legislation that have emerged since 2018. In recent years, global and national policy landscapes have increasingly recognised the importance of biodiversity, leading to enhanced legislative measures. This shift necessitates a reassessment to ensure the SBIF recommendations remain effective and relevant in this dynamic policy environment. This process strengthens the recommendations' capability to support the goals set by new environmental policies and international biodiversity targets, such as those detailed in 2022 within the UN Convention on Biological Diversity (CBD) Kunming-Montreal Global Biodiversity Framework^[2].

In addition, the Scottish Marine Biodiversity Data Review (SMBDR)^[3] was undertaken in 2022 and carried out with marine stakeholders to establish a set of recommendations parallel to those in the SBIF Review for Scottish marine biodiversity data. The SMBDR recommendations reflect the marine data landscape through the Marine Environmental Data and Information Network (MEDIN). The Scottish Biodiversity Strategy (SBS)^[4], a pivotal element of Scotland's domestic policy, underscores the nation's commitment to preserving

its unique natural heritage and biodiversity. This strategy is intrinsically linked to the broader UK and international goals, aligning with directives such as the EU Biodiversity Strategy^[5] and the UN Post-2020 Global Biodiversity Framework. The importance of the SBS lies not only in its goal to halt biodiversity loss within Scotland by 2045, but also in its broader socio-economic benefits, including enhancing ecosystem services that contribute to national health, wealth, and disaster resilience.

The upcoming implementation of the first 5-year delivery framework for the SBS marks a significant phase in Scotland's environmental policy. It will focus on several key areas, including restoring degraded ecosystems, expanding native woodland, and improving ecological connectivity across various landscapes. The framework aims to create a more cohesive management system for biodiversity while encouraging public, private, and community stakeholders to participate actively in conservation efforts. This structured approach ensures that the milestones set in the SBS are not only met but are done so in a way that is transparent and accountable. By doing so, Scotland positions itself at the forefront of biodiversity conservation, setting a benchmark for effective and sustainable biodiversity management that can serve as a model for other regions globally. The success of this delivery framework will be crucial in determining the trajectory of Scotland's biodiversity policies in the coming decades, influencing everything from local conservation practices to international collaborations on environmental sustainability.

Progressing the SBIF recommendations will play a key role in assisting the 2025-2030 SBS delivery framework. This reassessment outlines the importance of the SBIF recommendations based on their alignment with the actions proposed through the SBS.

Revised SBIF Recommendations for 2024

The 24 recommendations made in the 2018 SBIF Review have been updated in light of changes in the biodiversity-related policy frameworks and legislation since its publication. These updates do not materially change the SBIF recommendations, but clarify the language used and Table 1 highlights key terms which have been updated to better reflect the current situation.










Table 1. Updates made to the language of the SBIF recommendations in 2024







2018 SBIF Review term	2024 Updated term	Rationale
Lead Governance Body	Lead Coordinating Body	Coordination better reflects the role of the proposed body
Super Partner	Keystone Partner	A range of partners function as keystones within the biodiversity data infrastructure
NBN Platform Partner	Keystone Partner	A range of partners function as keystones within the biodiversity data infrastructure
NBN National Hub	National Hub	The updated term allows a range of options to be considered
NBN Regional Hub or NBN Regional Hub Partner	Regional Hub	The updated term allows a range of options to be considered
National Outcomes for Scotland	Scottish Biodiversity Strategy	Updated language reflects policy development
SNH	NatureScot	Updated language to use the current agency name









Current progress made against the revised SBIF recommendations has been assessed and a priority level assigned to indicate their importance for assisting delivery of the 2025-2030 SBS delivery framework, these are outlined in Table 2 and Figure 1. Priority levels were determined by examining the alignment of the SBIF recommendations with the objectives and priority actions outlined in the Scottish Biodiversity Delivery Plan as part of the 2023 Consultation on Scotland's Strategic Framework for Biodiversity.

Table 2 . The revised SBIF recommendations with progress status, priority levels and links with Scottish Biodiversity Strategy (SBS) objectives

SBIF Outcomes and Recommendations

	Progress status 2024	Priority to assist delivery of 2025-2030 SBS	Most relevant SBS objectives 2025-2030
<p>OUTCOME 1: Transformed Data Flows - with clear data flows to a central data repository, with easy data submission and feedback on use.</p>	 In progress		
<p>RECOMMENDATION 1: PRIMACY OF THE NBN & NBN ATLAS The National Biodiversity Network (NBN) and the NBN Atlas platforms provide the community and primary place for the submission, dissemination and discovery of biological records and added-value datasets and services. The NBN Atlas is the single, central data repository for all sectors seeking to contribute, provide or use biological records and associated information for terrestrial, freshwater, and marine environments alike. Biological records should be submitted via an affiliated route as soon as possible after their collection.</p>	 Complete	 Priority 3	OBJ2 OBJ4 OBJ6
<p>RECOMMENDATION 2: AFFILIATION OF DATA SUBMISSION ROUTES All biological records should be submitted online and published via the NBN Atlas through standard, affiliated routes. The NBN Trust should establish and maintain a single, central NBN Directory of each affiliated route facilitating data submission to the NBN Atlas. Each route should have a single point of submission curated by a single Data Provider so that everyone has confidence that submitted records will be held with appropriate metadata and rapidly disseminated for inclusion in National Recording Schemes and for general use and re-use (with restrictions as per national requirements to protect sensitive species). Some rationalisations of existing routes may be necessary to ensure that these operate effectively and without duplication.</p>	 In progress	 Priority 3	OBJ2 OBJ4 OBJ6
<p>RECOMMENDATION 3: SINGLE, CENTRAL ROUTE FOR CASUAL RECORDS iRecord should be the single, central affiliated channel through which to submit casual records for verification, inclusion in relevant National Recording Schemes and dissemination via the NBN. All casual records with no particular affiliation to any survey methodology, scheme, recording group, project or organisation should be submitted through iRecord. This should be facilitated by ensuring that relevant data submission platforms are integrated with the Indicia database so that records can be validated, verified, and mobilised to the NBN Atlas. iRecord - as the single, central affiliated channel - should be given special status to facilitate access to sufficient, sustained funding towards the costs of its development and operation.</p>	 In progress	 Priority 2	OBJ4 OBJ5
<p>RECOMMENDATION 4: PRIMACY OF AFFILIATED DATA SUBMISSION ROUTES Biological records for a specific survey methodology, scheme, recording group, project or organisation should be submitted via their affiliated route. The most appropriate affiliated route should always be used, and no organisation should divert biological records from these routes. Recorders should submit their records through the most appropriate route to avoid duplication of submission of any individual record. The NBN Atlas should contain the definitive version of each record with a unique NBN Atlas global record identifier. Organisations wishing to aggregate biological records for their own use, or to provide services to others, should refer to the NBN Atlas to access this definitive version. Where further assistance is needed to submit or provide records, Recorders and Data Providers should seek support through the network of National and Regional Hubs.</p>	 Not started	 Priority 3	OBJ2 OBJ4 OBJ6

	Progress status 2024	Priority to assist delivery of 2025-2030 SBS	Most relevant SBS objectives 2025-2030
<p>RECOMMENDATION 5: PROVISION OF RECORDS COLLECTED UNDER LICENCE OR FOR CONSENT/STATUS</p> <p>Biological records collected with public funding, under licence, for Environmental Impact Assessment or planning consent, or for an academic or professional qualification, should be provided to the NBN Atlas as a matter of good practice. Whenever a relevant professional or statutory body grants licences, consents, funding, or confers professional or academic status, it should be a requirement that the beneficiary must provide, or have provided, all relevant biological records (i.e. species occurrence records) to the NBN Atlas. The National and Regional Hubs should seek to facilitate digital interfaces with Local Authority ePlanning portals, public digital data repositories and other platforms or internal business systems so that, wherever possible, biological records can be deposited once - in a way that also ensures effortless provision to the NBN Atlas. The Lead Coordinating Body and its network of National and Regional Hubs should focus on supporting academic institutions, commercial companies, and public bodies in Scotland to realise value from use of the NBN Atlas to share or access biological records.</p>	 <p>Initiated</p>	 <p>Priority 2</p>	<p>OBJ2 OBJ4 OBJ6</p>
<p>RECOMMENDATION 6: RECOGNITION & RESOURCING OF A CENTRAL DATA MANAGEMENT PORTAL</p> <p>Recorder 6 and Marine Recorder (or their equivalents) should be actively developed to become common, central data management portals for National and Regional Hubs and other data custodians to collate, view and manage their own biological records and datasets. All records curated through the central data management portal should be verified via iRecord and NBN affiliated verification processes and aggregated and openly disseminated via the NBN Atlas (with restrictions as per national requirements to protect sensitive species). The organisations behind the central data management portals should be given special status to facilitate access to long term funding towards the full costs of their development and operation.</p>	 <p>In progress</p>	 <p>Priority 2</p>	<p>OBJ4 OBJ5</p>
<p>RECOMMENDATION 7: RECOGNITION & RESOURCING FOR KEYSTONE PARTNERS</p> <p>Keystone Partners should be fully recognised and sustained to a level that has the capacity to support participation and verification on a major scale. The contribution of Keystone Partners (including the National Recording Schemes, National Museums and Royal Botanic Gardens, the UK Species Inventory, the Non-Native Species Secretariat and the State of Nature Partnership) in the provision of key infrastructure (such as networks of expert Verifiers, curated reference collections, species taxonomies and bespoke databases enabling rich attribution of records) is essential to the success of the infrastructure. Each such Keystone Partner should be given special status and access to long-term funding towards the costs of maintaining a network of expert Verifiers, reference collections, species taxonomies and status reports for use in Scotland. Where National Recording Schemes provide bespoke platforms for the curation and verification of a major taxonomic group with major public participation (such as BSBI's Distribution Database for plants or BTO's BirdTrack for birds), these National Recording Schemes should also be given special status as Keystone Partners to facilitate access to long-term funding towards the costs of their system's development and operation. Aside from funding, National Recording Schemes should continue to be supported by iRecord and NBN staff to access back-office services and other professional support (such as for website development, communications and assistance with data curation).</p>	 <p>Not started</p>	 <p>Priority 2</p>	<p>OBJ1 OBJ2 OBJ3 OBJ4 OBJ5 OBJ6</p>

	Progress status 2024	Priority to assist delivery of 2025-2030 SBS	Most relevant SBS objectives 2025-2030
<p>RECOMMENDATION 8: SYSTEM SIMPLIFICATION</p> <p>The systems and tools available for collecting, curating, aggregating, and disseminating biological records across all environments (terrestrial, freshwater, and marine) and sectors should be rationalised. A 'system simplification' exercise should be undertaken to rationalise systems as far as possible and develop an integrated technical road map to maximise inter-operability and ease and speed of data flow to and from the NBN Atlas. The NBN Trust should aid Keystone Partners in co-creating an integrated technical road map to maximise the parsimony and synergy of systems in future. Where important aggregations of biological records exist in stand-alone systems without dissemination via the NBN Atlas, their funding should focus on mobilisation of their records to the NBN Atlas via automated harvesting of records and/or integration of each stand-alone system to 'put them on the grid'.</p>	 <p>Initiated</p>	 <p>Priority 2</p>	<p>OBJ1 OBJ2 OBJ3 OBJ4 OBJ5 OBJ6</p>
<p>RECOMMENDATION 9: ESTABLISHMENT OF A NATIONAL HUB</p> <p>A National Hub for Scotland should be established to support a network of Regional Hubs and to facilitate the flow of biological records into the NBN Atlas to create a definitive evidence base for Scotland. The National Hub should act as a 'Product Owner' for the common data management portal on behalf of all stakeholders in Scotland, collaborating with all sectors to encourage innovation around added-value services, data products and tools. It should also develop services and manage agreements at the national scale for the supply of definitive biodiversity information for environmental decision-making in Scotland.</p>	 <p>In progress</p>	 <p>Priority 2</p>	<p>OBJ2 OBJ4 OBJ6</p>
<p>RECOMMENDATION 10: ESTABLISHMENT OF A NETWORK OF REGIONAL HUBS</p> <p>A network of Regional Hubs operating in partnership with the National Hub covering the whole of Scotland should be created. Each Regional Hub should be required to use the common data management portal to aggregate and analyse data for their region or area of interest in order to provide local data services. Each Regional Hub should also seek to ensure that all biological records for their region become available via the NBN Atlas, actively championing affiliated data submission routes and the NBN Directory of these and providing support to Recorders and Data Providers from all sectors in pursuit of this. The National Hub should gather and champion requirements from each Regional Hub so that the common data management portal provides the necessary capabilities for a Regional Hub to function effectively. The National Hub should also ensure that the boundaries of the Regional Hubs are complementary with no gaps or overlaps in cover. If no Regional Hub partners can be found for an area, regional staff could be employed by the National Hub instead.</p>	 <p>In progress</p>	 <p>Priority 2</p>	<p>OBJ2 OBJ4 OBJ6</p>
<p>RECOMMENDATION 11: AUTOMATED USE FEEDBACK & SHOWCASING</p> <p>Use feedback for Recorders and Data Providers should be built into all automated processes facilitated by the NBN Atlas. The NBN Atlas should provide a suite of reporting tools to report how and when records or datasets have been viewed, reported or downloaded, wherever it is feasible to do so. A 'Use Feedback' option for Data Users to volunteer details of how they have used records or datasets for a given purpose should also be available to facilitate the showcasing of high value uses. Innovation around reporting the provenance and use of biological records, and the impact or value of use, should be encouraged and showcased.</p>	 <p>Not started</p>	 <p>Priority 1</p>	<p>OBJ2 OBJ4 OBJ6</p>

Progress status 2024	Priority to assist delivery of 2025-2030 SBS	Most relevant SBS objectives 2025-2030
----------------------	--	--

OUTCOME 2:

Transformed Service Provision - with full coverage for services across Scotland and an online Digital First approach.



RECOMMENDATION 12: REGIONAL HUB SERVICE FOCUS & BRANDING

Regional Hubs should provide financially-sustainable services that i) support the flow of biological records to the NBN Atlas for Open use; ii) raise the awareness of, engagement in, and support for biological recording; and, iii) support the effective interpretation and use of biological records in local and regional decision-making. Both new and existing organisations or partnerships should be encouraged to apply to become a Regional Hub in order to access funding and/or tools to support the provision of these services to a particular community or geographic area. Regional Hubs should be required to use Regional Hub branding and/or for example an NBN Atlas 'Kitemark™' to facilitate public awareness of the Regional Hub services available in Scotland. Some rationalisation and accreditation of Regional Hubs may also be necessary to ensure that Regional Hubs operate effectively and without duplication.



OBJ4
OBJ5

RECOMMENDATION 13: CONSISTENT SERVICE PROVISION ACROSS SCOTLAND

Regional Hubs should offer a set of core services in a consistent way so that service users from across Scotland can access the same core service from any location in Scotland. The design of each service provided through the network of Regional Hubs should be refreshed using a digital service design approach involving service users to improve the user experience to the greatest extent. Regional Hubs should be free to provide additional added-value services tailored to local demand if without detriment to the core services provided - and to charge for such added-value. All services should be accessible online, with the National Hub maintaining a Service Catalogue for all services available in Scotland.



OBJ1
OBJ2
OBJ3
OBJ4
OBJ5
OBJ6

RECOMMENDATION 14: REGIONAL HUB HOSTING ARRANGEMENTS

Regional Hubs should be hosted by an organisation that can provide access to professional back office support (including finance, human resources and IT), line management and office facilities. Any funding framework agreement should require that Regional Hubs are hosted in this way as a condition of funding. The National Hub should champion such arrangements to ensure that each Regional Hub is matched with a suitable host. In return for payment for provision of back office support, each host should facilitate the wide use of services provided by the Regional Hub to ensure that these services are equally available to all users across the region and not dominated by the needs and servicing of the host itself. Hosting arrangements with organisations that also facilitate reach into one or more key communities (e.g. local or national government, eNGOs, academia or the commercial sector) should be especially encouraged.



OBJ1
OBJ2
OBJ3
OBJ4
OBJ5
OBJ6

RECOMMENDATION 15: NATIONAL & REGIONAL HUB SERVICE STRATEGY

A national service strategy for the biological recording infrastructure in Scotland should seek to perennially grow the contribution of the Infrastructure in support of the outcomes sought by the Scottish Biodiversity Strategy. National and Regional Hubs should report on their engagement across all sectors to demonstrate the extent to which active involvement in biological recording and the availability of a national biodiversity evidence base (through the NBN Atlas) aids the Scottish Biodiversity Strategy outcomes and provides value for Scotland. The National Hub should develop the use of performance reporting and data visualisation tools to support this.



OBJ1
OBJ2
OBJ3
OBJ4
OBJ5
OBJ6

Progress status 2024	Priority to assist delivery of 2025-2030 SBS	Most relevant SBS objectives 2025-2030
----------------------	--	--

OUTCOME 3:

Transformed Governance and Culture - with a Lead Coordinating Body working in partnership through a network of National and Regional Hubs.



Initiated

RECOMMENDATION 16: RECOGNITION & RESOURCING OF A CENTRAL HUB FOR THE UK

The NBN Trust should be given special status as the Lead Coordinating Body for the biological recording infrastructure in Scotland and the UK more widely. This would facilitate access to long-term funding towards the costs of the development and operation of the NBN Atlas and the supporting network of National and Regional Hubs in Scotland. The NBN Trust should be resourced to provide user, partner and technical services. During any implementation phase for Scotland, a small programme office should be maintained. The National Hub for Scotland should also be resourced to cover partner liaison, GIS and data analytics and education. Regional Hubs should be resourced to cover engagement with Recorders and the general public and to support the use of biological records in local and regional decision-making.



Initiated



Priority 1

OBJ1
OBJ2
OBJ3
OBJ4
OBJ5
OBJ6

RECOMMENDATION 17: GOVERNANCE OF NBN SCOTLAND

The National Hub for Scotland should be established as a division of NBN Trust and should be known as NBN Scotland. A permanent National Committee for Scotland should be established as an Advisory Body that can guide priorities on creating value for all stakeholders. Such a Country Committee should evolve from and replace the current SBIF Advisory Group. Similarly, Regional Committees should also be established to advise each Regional Hub, continuing existing Advisory Body arrangements where appropriate. The NBN Trust should in due course undertake an open selection process to appoint Country Committee members as honorary, fixed term positions. Administration of each National and Regional Committee should be supported by NBN Scotland, i.e. the National Hub, and Regional Hub staff respectively. In Scotland, the NBN Trust should then operate through its NBN Scotland division and National Committee for Scotland, with risks and issues escalated to NBN Trust when appropriate.



Not started



Priority 1

OBJ1
OBJ2
OBJ3
OBJ4
OBJ5
OBJ6

RECOMMENDATION 18: INTEGRATION & SYNERGY OF BRC & NBN TRUST DATA MANAGEMENT SERVICES

The data management services of the Biological Records Centre (BRC) and the NBN Trust should be brought together through greater integration where possible and a formal partnership arrangement for maximum synergy. The BRC and the NBN Trust should co-create a strategy to integrate relevant systems and streamline data flows by 2030. This strategy should build on the already excellent relationship between National Recording Schemes and the BRC to include the NBN Trust and its network of National and Regional Hubs with the same esteem. Through championing affiliated schemes to aid the flow of biological records, National and Regional Hubs should encourage local Recorders to support National Recording Schemes and to take interest in under-recorded sites or taxon groups.



Initiated



Priority 3

OBJ2
OBJ4
OBJ6

RECOMMENDATION 19: TEAM BUILDING & PROFESSIONAL DEVELOPMENT

The NBN Trust should invest in a National and Regional Hub professional development programme to build rapport, to encourage common ways of working and to grow collective capacity through developing the skills and capabilities of everyone involved. The NBN Trust should focus on team building for UK, National and Regional Hub staff and volunteers, using an annual conference and digital collaboration tools to encourage a sense of One Team across the whole network. All staff should receive training in Agile working to support the ongoing development of the NBN Atlas, and in species taxonomy/identification and leadership to have at least basic skills in each of these. Thereafter, a continuing professional development programme should be offered, with NBN Trust becoming an accredited 'Investor in People' (or equivalent). Where feasible, the NBN Trust should make available collaboration tools and learning resources to all affiliated partners to build capability and capacity across the entire network.



Not started



Priority 2

OBJ4
OBJ5

Progress status 2024	Priority to assist delivery of 2025-2030 SBS	Most relevant SBS objectives 2025-2030
----------------------	--	--

OUTCOME 4:

Transformed Funding - with sufficient, sustained funding provided for Lead Coordinating Body, Keystone Partners and community activities.



RECOMMENDATION 20: A SINGLE FRAMEWORK AGREEMENT

Sufficient public funding should be provided to ensure the feasibility of the core Infrastructure provided by National and Regional Hubs, Keystone Partners and community groups in Scotland in support of the outcomes of the Scottish Biodiversity Strategy. As originally recommended in response to Public Petition PE1229, Scottish Government should become the key funder on behalf of the Scottish public sector. New funding should be made available through a Single Framework Agreement with the Lead Coordinating Body (i.e. NBN Trust). Such a Framework Agreement should run to 2030 in the first instance and be renewed every 5 years.



- OBJ1
- OBJ2
- OBJ3
- OBJ4
- OBJ5
- OBJ6

RECOMMENDATION 21: FUNDING DRAWN FROM THOSE WHO GAIN VALUE OR CAUSE HARMS

The source of public funding should be designed to: i) share the core operating costs of the Infrastructure between the sectors who need to access biodiversity data and realise value from doing so; and, ii) base the greatest burden of funding upon those whose activities are key drivers of biodiversity loss. To this end, the Scottish Government could consider the hypothecation of an existing environmental levy, the introduction of a new Biodiversity Levy, or the addition of a Biodiversity Supplement to the poundage rate for business rates collected in Scotland, to generate an appropriate annual revenue stream to fund the biological recording infrastructure in Scotland in the long term.



- OBJ1
- OBJ2
- OBJ3
- OBJ4
- OBJ5
- OBJ6

RECOMMENDATION 22: A SINGLE APPROVED BODY TO DISBURSE FUNDS

The National Hub should be the Approved Body for the disbursement of funding provided through any Framework Agreement. Funding should be provided to the National Hub, Regional Hubs, Keystone Partners and local communities or individuals as per the recommendations of the Review. Ongoing efficiencies should be sought to continually maximise the value and impact of funding. The National Hub should use an Annual Performance Review to report the funding disbursed and value achieved using performance metrics defined in the Framework Agreement. The annual spending plans of each funded beneficiary should be guided by their relevant National or Regional Committee to maximise the value of the funding contribution.



- OBJ1
- OBJ2
- OBJ3
- OBJ4
- OBJ5
- OBJ6

RECOMMENDATION 23: COMMUNITY FUNDS TO SUPPORT VERIFIERS, RECORDERS & OUTREACH

A Community Fund should be established to facilitate the scaling up of public engagement in biological recording to ease current pressure points and to encourage participation and equal access for all. Funding should be focused on delivery of strategic priorities such as encouraging biological recording of under-recorded species or sites; promoting biological recording for associated health benefits; developing taxonomic expertise in species of conservation priority; and supporting the costs of equipping and running a recording group or school group. A cross-sectoral stakeholder group such as NatureScot's Scientific Advisory Committee, or any Steering Groups for the Scottish Biodiversity Strategy, should be appointed to provide independent advice on the appropriate strategic priorities for Scotland each year. The relevant National or Regional Committee should act as an Investment Committee to direct funding in accordance with these priorities.



- OBJ1
- OBJ2
- OBJ3
- OBJ4
- OBJ5
- OBJ6

Progress status 2024	Priority to assist delivery of 2025-2030 SBS	Most relevant SBS objectives 2025-2030
----------------------	--	--

OUTCOME 5:
Transition by 2030 - with a shared implementation plan to maintain the momentum of the SBIF Review.



RECOMMENDATION 24: AN IMPLEMENTATION PLAN TO ACHIEVE RECOMMENDATIONS BY 2030

The SBIF Review Working Group should develop a detailed Implementation Plan that sets out how the transition from the current situation to the future situation in Scotland will be achieved and monitored. Implementation should follow an Agile approach focusing on areas of highest value first. The SBIF Advisory Group will need to continue to provide energy and leadership to maintain momentum and to guide the development of the Implementation Plan appropriately.



- OBJ1
- OBJ2
- OBJ3
- OBJ4
- OBJ5
- OBJ6



SBIF Recommendations: Progress and priority to assist delivery of 2025-2030 SBS

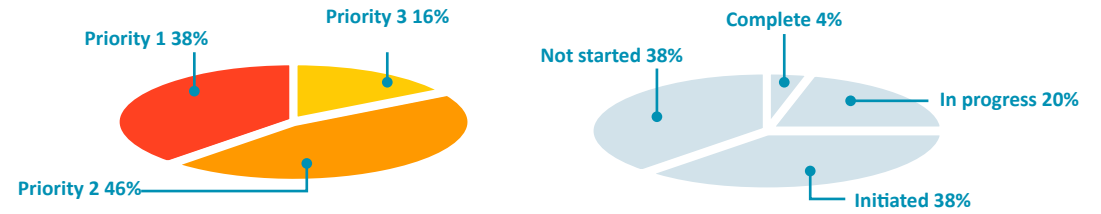


Figure 1. SBIF recommendations: progress and priority to assist delivery of 2025-2030 SBS

Implementing SBIF Recommendations 2023-2025

Initial work on key SBIF recommendations commenced in 2023, with the start of Better Biodiversity Data (BBD) project delivery. The BBD project is led by the National Biodiversity Network (NBN) Trust's Scottish team, known as NBN Scotland, in partnership with NatureScot and SBIF.

BBD project objectives

- A nationwide partnership providing biodiversity data services on behalf of Scotland.
- A fit-for-purpose Data Management and Digital Services System, providing financially sustainable value-added services to users.
- A well-connected and functional biodiversity data community and infrastructure in Scotland, following FAIR and Open Data principles, across all sectors.

In tackling the above objectives, the BBD project will directly address SBIF objectives associated with national support in Scotland for biodiversity service providers, building on the existing network and creating the foundation for national-level service provision. The outcomes of the BBD project will help establish the technical systems and business models required for delivering financially sustainable services into the future.



Dependency on other sectors for ongoing implementation of SBIF recommendations

Comprehensive implementation of the SBIF recommendations will require focus and funding from each sector in Scotland that relies on biodiversity data, thus they have a fundamental role to play in securing a transformed infrastructure. These sectors and representative examples from each are outlined below. SBIF itself acts as a cross-sectoral advisory body, with members of the SBIF Advisory Group drawn from organisations in each sector.

Biodiversity infrastructure

This is a clearly defined sector made up of bodies who contribute significantly to the core biodiversity data infrastructure in Scotland. The NBN Trust and Biological Records Centre are core to this sector, as custodians of the NBN Atlas and Indicia, the open-source wildlife recording toolkit on which iRecord is built. The network of Local Environmental Records Centres (LERCs) and Recording Groups which fulfil some of the same functions as LERCs in Scotland make up a third core pillar of this sector, providing regional biodiversity data management and services.

Public sector

Representing national and local government in Scotland, the public sector comprises Scottish Government and its key statutory agencies; NatureScot, Scottish Forestry, Scottish Environment Protection Agency (SEPA), and Environmental Standards Scotland (ESS), as well as Local Authorities. Public sector actors implement policies relating to biodiversity and are key users and generators of biodiversity data, through programmes of survey and monitoring.

Third sector

The third sector includes eNGOs of varying sizes and spheres of activity, but who often play a critical role in coordinating the collection of biodiversity data through recording schemes, projects and citizen science initiatives. Such eNGOs have historically shared vast amounts of biodiversity data with the biodiversity infrastructure bodies, for example, records collected through Butterfly Conservation's network of butterfly and moth recorders and verifiers. In addition, this sector includes museums and botanic gardens in Scotland who are major holders of collections-based biodiversity data.

Commercial sector

The commercial sector encompasses companies and consultancies who use and generate biodiversity data through their activities. Some, such as transport infrastructure and energy companies, may operate on a Scotland-wide basis, while others may work at local or regional levels. CIEEM, the professional body which represents ecologists and environmental managers is a key representative of this sector, which has historically had limited engagement with biodiversity data sharing.

Academia

The academic sector is made up of universities and other research institutions such as the James Hutton Institute, who both use existing biodiversity data and contribute to its collection through research activities. Biodiversity data sharing practices across the academic sector has traditionally been patchy, but more recent shifts in funding criteria have made the sharing of biological records a condition of some funding streams.

Figure 2 outlines four SBIF recommendations for different actors across these sectors, to demonstrate where they can have the greatest impact alongside the first delivery framework of the SBS up to 2030. The BBD project will be delivered between 2023-2025, marking significant progress in establishing national-level support for the biodiversity data infrastructure and services in Scotland.

SBIF Recommendations: Priorities by sector

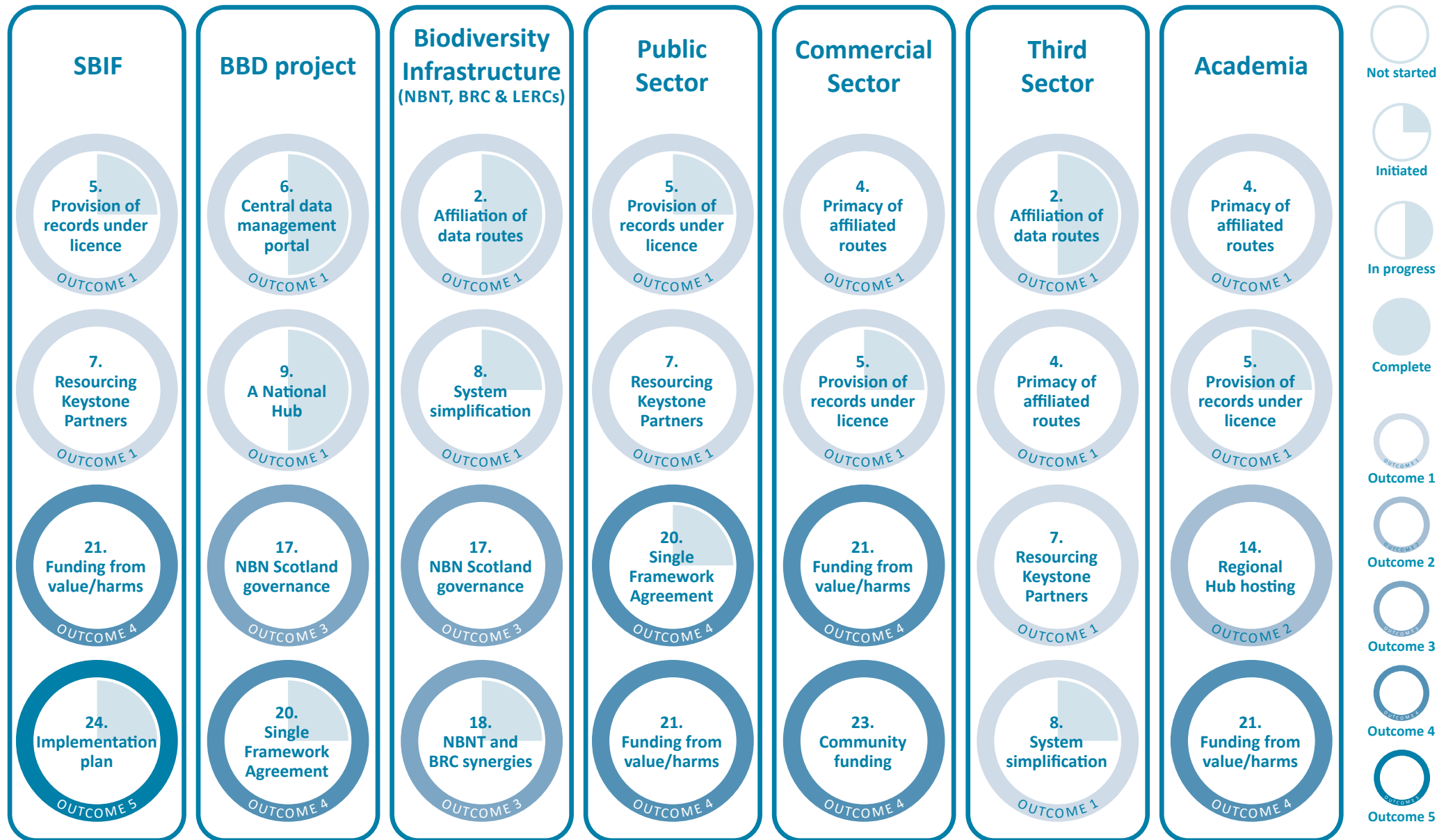


Figure 2. SBIF recommendations: priorities by sector

Summary

The SBIF recommendations have been updated for 2024 to reflect the current and evolving policy landscape internationally, at a UK level and in Scotland. The BBD project will deliver key actions in 2025 that help establish national-level support for the future biodiversity data infrastructure and services in Scotland. The outcomes from BBD will enable further progress against the SBIF recommendations to be made across sectors and contribute to the delivery of the SBS delivery framework 2025-2030.

References

- [1] Wilson, E., Edwards, L., Judge, J., Johnston, C., Stroud, R., McLeod, C. and Bamforth, L. (2018) A Review of the Biological Recording Infrastructure in Scotland by the Scottish Biodiversity Information Forum: Enabling Scotland to be a global leader for biodiversity. Scottish Biodiversity Information Forum Commissioned Report No. 1. URL: <https://nbn.org.uk/wp-content/uploads/2023/12/SBIF-Review-Final-Report-and-Recommendations.pdf>
- [2] CBD (2022) Kunming-Montreal global biodiversity framework, Convention on Biological Diversity - COP, 2022. URL: <https://www.cbd.int/doc/c/e6d3/cd1d/daf663719a03902a9b116c34/cop-15-l-25-en.pdf>
- [3] Sinclair, R. and Dargie, J. (2022) Scottish Marine Biodiversity Data Review: Stakeholder analysis to inform the marine species and habitats data infrastructure and management requirements for improved availability, accessibility and use in Scotland. NatureScot Research Report 1304. URL: <https://www.nature.scot/doc/naturescot-research-report-1304-scottish-marine-biodiversity-data-review-stakeholder-analysis-inform>
- [4] Scottish Government (2022) Scottish Biodiversity Strategy to 2045: Tackling the Nature Emergency in Scotland, Scottish Government, December 2022, ISBN: 978-1-80525-330-3, pp 85. URL: <https://www.gov.scot/publications/scottish-biodiversity-strategy-2045-tackling-nature-emergency-scotland/documents/>
- [5] European Commission (2021) EU biodiversity strategy for 2030 – Bringing nature back into our lives, Directorate-General for Environment, Office of the European Union, 2021. URL: <https://data.europa.eu/doi/10.2779/677548>

Acknowledgements

This project is supported by NatureScot and the Scottish Government with additional support from BRISC, RSPB and SWT.



Scottish Government
Riaghaltas na h-Alba
gov.scot

