



# NBN Scotland

Better Biodiversity Data

Dàta Bith-iomadachd nas Fheàrr



# MAKING DATA WORK FOR NATURE

2022 – 2027

The National Biodiversity Network Trust's Strategy

**NBN Trust**

Making data work for nature





### **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 a 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.



# A Review of the Biological Recording Infrastructure in Scotland

By the  
Scottish Biodiversity Information Forum



Enabling Scotland to be a  
global leader for biodiversity

## SBIF RECOMMENDATIONS



**TRANSFORMED DATA FLOWS** with clear data links to the NBN Atlas Scotland, with easy data submission and feedback channels.



**TRANSFORMED SERVICE PROVISION** with full coverage across Scotland designed for added value, accessibility and inclusivity.



**TRANSFORMED FUNDING** with long-term funding secured for coordinating body, keystone organisations, and wider recording community.



**TRANSFORMED STRUCTURE AND CULTURE** with a lead coordinating body, working in partnership with a network of Regional Hubs and Local Service Providers.



**TRANSITION BY 2030** with a shared implementation plan to maintain the momentum of the SBIF recommendations.

# Tackling the nature emergency

## Consultation on Scotland's Strategic Framework for Biodiversity



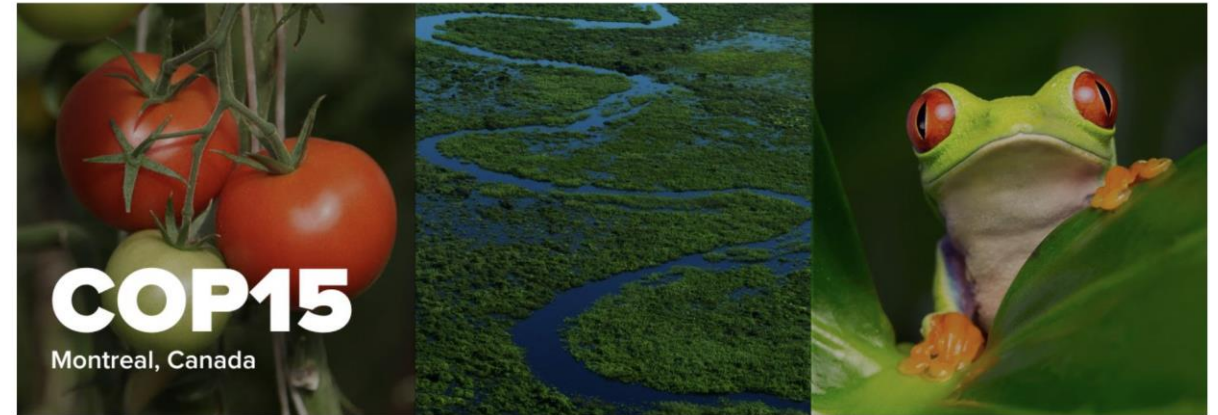
We are in the midst of a biodiversity crisis. The facts are beyond doubt: nature is declining fast. It is estimated that 1 million species across the world are at threat of extinction. Here in Scotland, nearly half of our species have decreased in abundance and 11 per cent are under threat of extinction. Nature has an intrinsic value, but its complex diversity and abundance of life is also central to our survival as a species. Our economy, jobs, health and wellbeing depend on it. Restoring biodiversity is crucial in tackling the climate crisis, and tackling the climate crisis will be essential for restoring biodiversity. Across the world, ocean and land ecosystems remove about 50 per cent of the carbon emissions that are produced by us each year.

The Scottish Government is committed to restoring Scotland's natural environment and supporting thriving communities and wildlife alike. In December 2022 we published our draft Scottish Biodiversity Strategy, setting out our clear ambition for Scotland to be Nature Positive by 2030 and to have restored and regenerated biodiversity by 2045. The Strategy was published in draft form to allow us to incorporate the outcomes from COP15 and meet our international obligations.

September 2023

 Scottish Government  
Riaghaltas na h-Alba

## COP15: The UN Biodiversity Conference



**KUNMING-MONTREAL  
GLOBAL BIODIVERSITY  
FRAMEWORK**



**Convention on  
Biological Diversity**

# Tackling the nature emergency

## Consultation on Scotland's Strategic Framework for Biodiversity

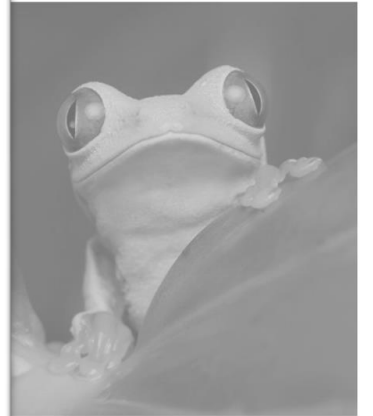


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# Tackling the nature em

## Consultation on Scotland's Strategy From 2022 to 2045

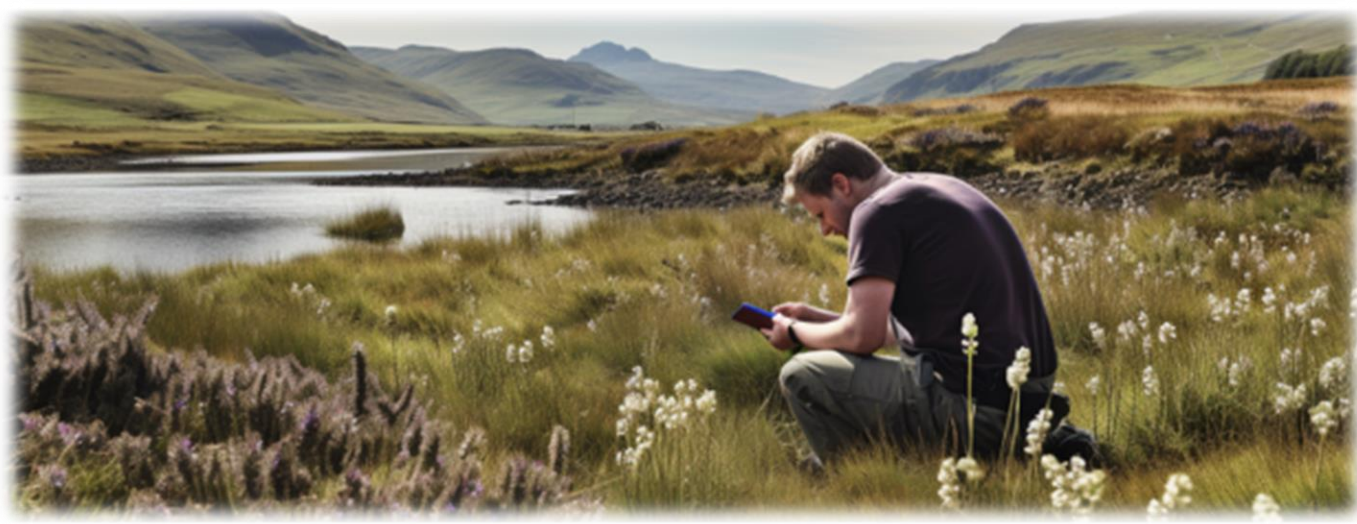
25 Year Strategy:  
Vision, high level outcomes and 33  
priority actions  
2022

Code	Develop effective species recovery, reintroduction and reinforcement programmes
U	<ul style="list-style-type: none"> <li>Develop effective species recovery, reintroduction and reinforcement programmes drawing on partnership work on Species at Risk prioritisation, Species on the Edge programme, and evaluation of drivers. For example, continue to support and build upon existing strategies and schemes to protect and expand populations of species such as capercaillie, red squirrel, sea eagle, golden eagle and Eurasian beaver.</li> </ul>
U	<ul style="list-style-type: none"> <li>Develop and implement national plans for conserving species groups for which Scotland holds internationally important populations such as lichens, bryophytes, freshwater pearl mussels, and wetland waders.</li> </ul>
U	<ul style="list-style-type: none"> <li>Undertake measures to reduce human pressures to give habitats and species (especially specialists; arctic/alpine) more chance of surviving and improve the status of red listed species in Scotland.</li> </ul>
U	<ul style="list-style-type: none"> <li>Map genetic diversity risks across Scotland and ensure mitigating genetic diversity risks across Protected Areas and OECMs are included within Biodiversity Action Plans to reduce risks in protected areas by 2030.</li> </ul>
U	<ul style="list-style-type: none"> <li>Raise public awareness of science and practice around conservation translocations through public engagement by 2030.</li> </ul>
U	<ul style="list-style-type: none"> <li>The Better Biodiversity Data project will develop and build upon the first steps in a strategic approach to the collection, collation and sharing of biological data across Scotland; use of citizen science for monitoring key species will increase.</li> </ul>
U	<ul style="list-style-type: none"> <li>Support surveillance and monitoring to manage pathogens and disease risks.</li> </ul>

September 2023



**NBN Scotland**  
Better Biodiversity Data  
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➤ **BBD project – 2023-2025**

Will support the ambitions of the Scottish Biodiversity Strategy, by securing access to the data needed to set targets and measure progress.

➤ **BBD is led by the NBN Trust**

in partnership with NatureScot, the Scottish Government, and the Scottish Biodiversity Information Forum Advisory Group (SBIF-AG).

➤ **BBD will develop a fit-for-purpose infrastructure**

facilitating biodiversity data services across Scotland.







## Objective one

A nationwide partnership providing biodiversity data services on behalf of Scotland.

## Objective two

A fit-for-purpose Data Management and Digital Services System, providing financially sustainable value-added services to users.

## Objective three

A connected functional biodiversity data community and infrastructure, following FAIR and Open Data principles, across all sectors.





**Michael Tetley**

NBN Scotland Programme Manager

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**Christine Tansey**

BBD Partnerships Officer

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**Emily Baker**

BBD Data and Digital Services Manager

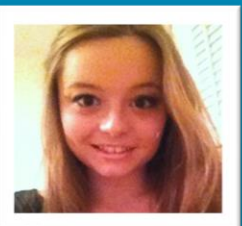
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**Philip Bysh**

BBD Lead Business Analyst

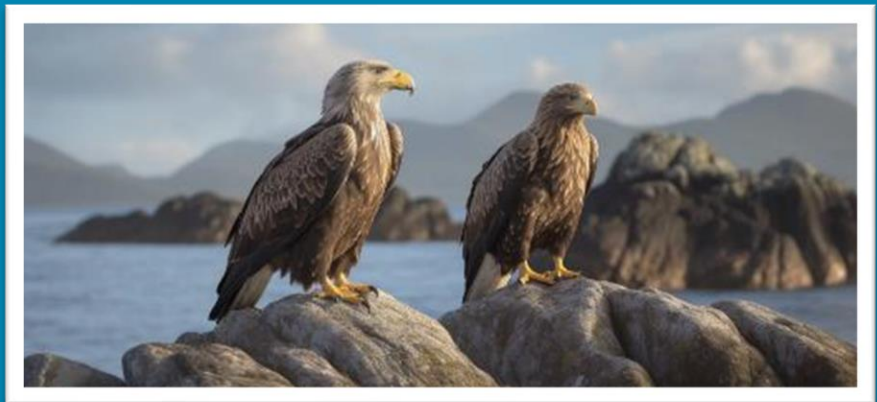
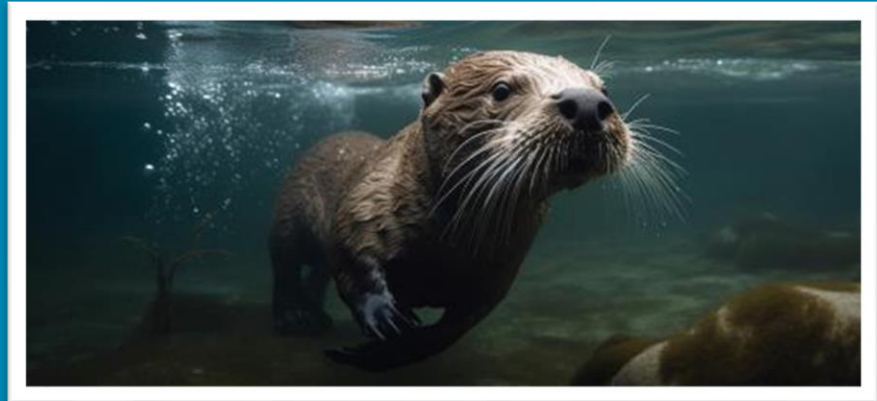
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**Bethany Fairbairn**

BBD Business Analyst

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# CHALLENGES

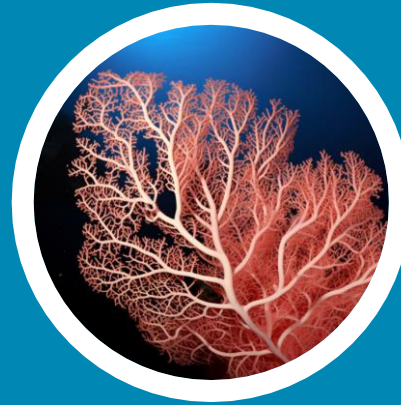
- **Poor data flows:**
  - **Between terrestrial, freshwater and marine**
  - **From commercial sources**
  - **From academia and research**



# CHALLENGES

Inconsistent coverage:

- Resources and funding
- Capacity and staff ability to respond to data requests
- Ability to fill in geographic or taxonomic data gaps





# CHALLENGES

Verification  
pathways and  
timescales:

- Local expertise
- National verifiers
- Recording Apps





# CHALLENGES

## Support for the recording community

- Training
- Engagement





# CHALLENGES

- Uncertainty about data flows to submit
  - Proliferation of routes
  - For historic data
  - Capacity to process records
- Uncertainty about routes to access
  - Incomplete picture
  - Capacity to access records



# CHALLENGES

- **Uncertainty about data flows to submit**
  - **Proliferation of routes**
  - **For historic data**
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- **Uncertainty about routes to access**
  - **Incomplete picture**
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**HUMAN and ARTIFICIAL  
Intelligences are  
EQUALLY  
confused about  
BIODIVERSITY DATA FLOWS  
in Scotland**





## OBJECTIVE

### OBJECTIVE ONE

A nationwide partnership providing biodiversity data services on behalf of Scotland.



## SOLUTION

**CREATION** of an equitable incorporated body of National, Regional and Local biodiversity data service providers.



## OUTCOME

### NEW CONSORTIUM

Co-operative of members providing biodiversity services under National and Local Service Agreements.





## OBJECTIVE

### OBJECTIVE TWO

Data Management and Digital Services System, providing financially sustainable value-added services to users.



## SOLUTION

**ASSESS** existing management tools for biodiversity data, and work with the user community to make a new secure online System that serves their needs.



## OUTCOME

**MULTI-TENANT DATABASE** in the Cloud, with up-to-date User-Interface and access to open community Service Facilities.







## OBJECTIVE

### OBJECTIVE THREE

A biodiversity data community and infrastructure, following FAIR and Open Data principles, across all sectors.



## SOLUTION

### MAP THE DATA FLOW

pathways and practices in Scotland (and beyond) to allow an understanding of bottlenecks and barriers.



## OUTCOME

**SYSTEMATIC DEPICTION** of data collectors, aggregators and users, laying the foundation of a necessary Data Framework Agreement.



# Better Biodiversity Data Project Group







**NBN Scotland**  
Better Biodiversity Data  
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**Better Biodiversity Data project  
is supported by the Scottish  
Government and NatureScot**



Scottish Government  
Riaghaltas na h-Alba  
gov.scot



**NatureScot**  
**NàdarAlba**  
Scotland's Nature Agency  
Buidheann Nàdair na h-Alba

