
1495
UNIVERSITY OF
ABERDEEN
Climate and
Sustainability Assembly
Becoming a Nature-Positive University

1495 UNIVERSITY OF ABERDEEN

CELEBRATING 525 YEARS 1495 – 2020

ABERDEEN 2040

University of Aberdeen Climate & Sustainability Assembly

March 2023

Aberdeen 2040 Sustainability Commitments

Commitments

Sustainability

Encourage everyone within our community to work and live sustainably, recognising the importance of our time, energy and resilience

Environment

Educate all our students and staff to be leaders in protecting the environment

Research

Excel in research that addresses the climate emergency, enables energy transition and the preservation of biodiversity

Net zero

Achieve net zero carbon emissions before 2040

Investment

Generate resources for investment in education and research year on year, so that we can continue to develop the people, ideas and actions that help us to fulfil our purpose

Why a Climate and Sustainability Assembly ?

- Climate Assemblies and other participatory approaches put people and communities at the centre of decision making.
- They are a growing movement in the Northeast, in Scotland and in the UK and international context.
- Assemblies gather new ideas for action on sustainability, increase participation, and enable you to feed in, explore and test different ideas. Your views will be heard and you will be listened to.
- Giving staff and students a voice and a real stake in sustainability action is the central aim of this and our future assemblies.

The process

- Two breakout groups and plenary sessions. Please find your group and your room. Each group has a facilitator to guide you through and capture your ideas.
- Please be respectful to our facilitators and each other. All views are relevant and welcome.
- We will ask each group for a rapporteur to feed back (briefly) to plenary.
- **Session 1**: What does a Nature Positive University mean to you?
- **Session 2**: Identify two priority actions or activities that would support a Nature Positive university?
- We will prepare a summary based on the outcomes for circulating to all staff & students. This will be presented to our Sustainable Development Committee and form the basis of our Biodiversity Policy.


1495
UNIVERSITY OF
ABERDEEN
Climate and
Sustainability Assembly
Becoming a Nature-Positive University

UNIVERSITY OF ABERDEEN

Aberdeen Biodiversity Centre – Biodiversity Outreach

School of Biological Sciences
Zoology Building

Dr Liz Campbell

What is the Biodiversity Centre?

- Aberdeen Biodiversity Centre is a Science and Environment education centre based within the School of Biological Sciences.
- We aim to engage school children, local communities and the general public with science and the environment, through teacher training courses, school workshops and public events.

Context

- Based in the School of Biological Sciences, in the Zoology Building.
- SBS – research and teaching into biological subjects, including environmental topics such as biodiversity and climate change.

Resources available - ABC

Resources Available – Zoology Museum

Resources Available – Cruickshank Botanic Garden

Who we work with

- Schools
  - Workshops
  - Materials for self led activities
  - Support for teaching science and environmental topics
- Community groups
- Members of the Public
  - Family fun days
  - Ad hoc visits
  - Research engagement days

Workshops

- **Suitable for Lower Primary Age Children:**
  - *Night and Day in Nature*
  - *My World of Nature*
  - *Marvellous Minibeasts (April to September only)*
- **Suitable for Upper Primary Aged Children:**
  - *Fossils, Dinosaurs and Prehistoric Life*
  - *Amazing Animals (Vertebrate Classification)*
  - *Harsh Habitats (Animal adaptations)*
  - *Resourceful Rainforests*
  - *Investigating Invertebrates with Pond Dipping (May to October only)*
  - *What's the Point of Plants?*

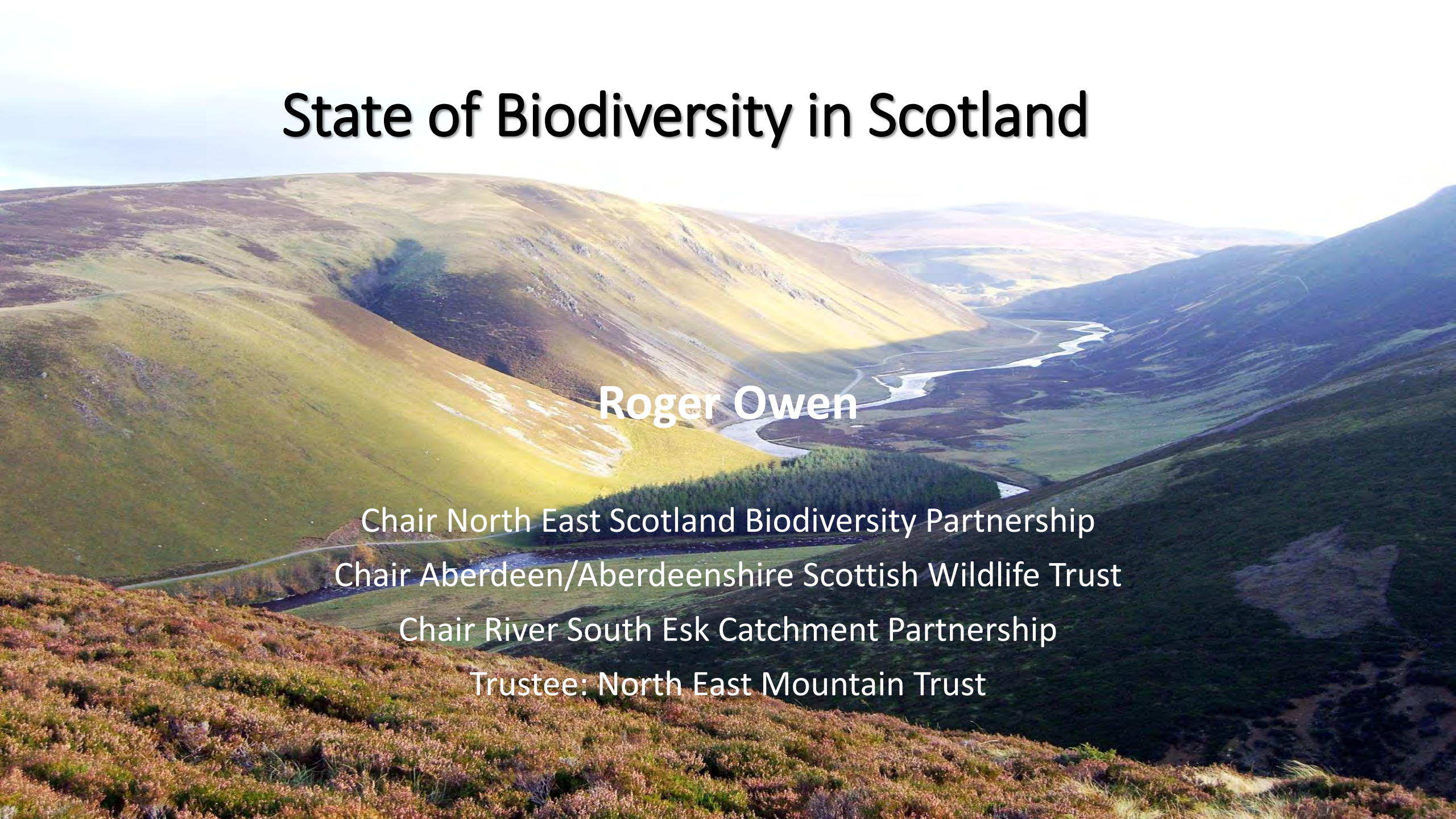
IVERSITY OF
BERDEEN

UNIVERSITY OF ABERDEEN

Transforming the world with greater knowledge and learning


1495
UNIVERSITY OF
ABERDEEN
Climate and
Sustainability Assembly
Becoming a Nature-Positive University

State of Biodiversity in Scotland



Roger Owen

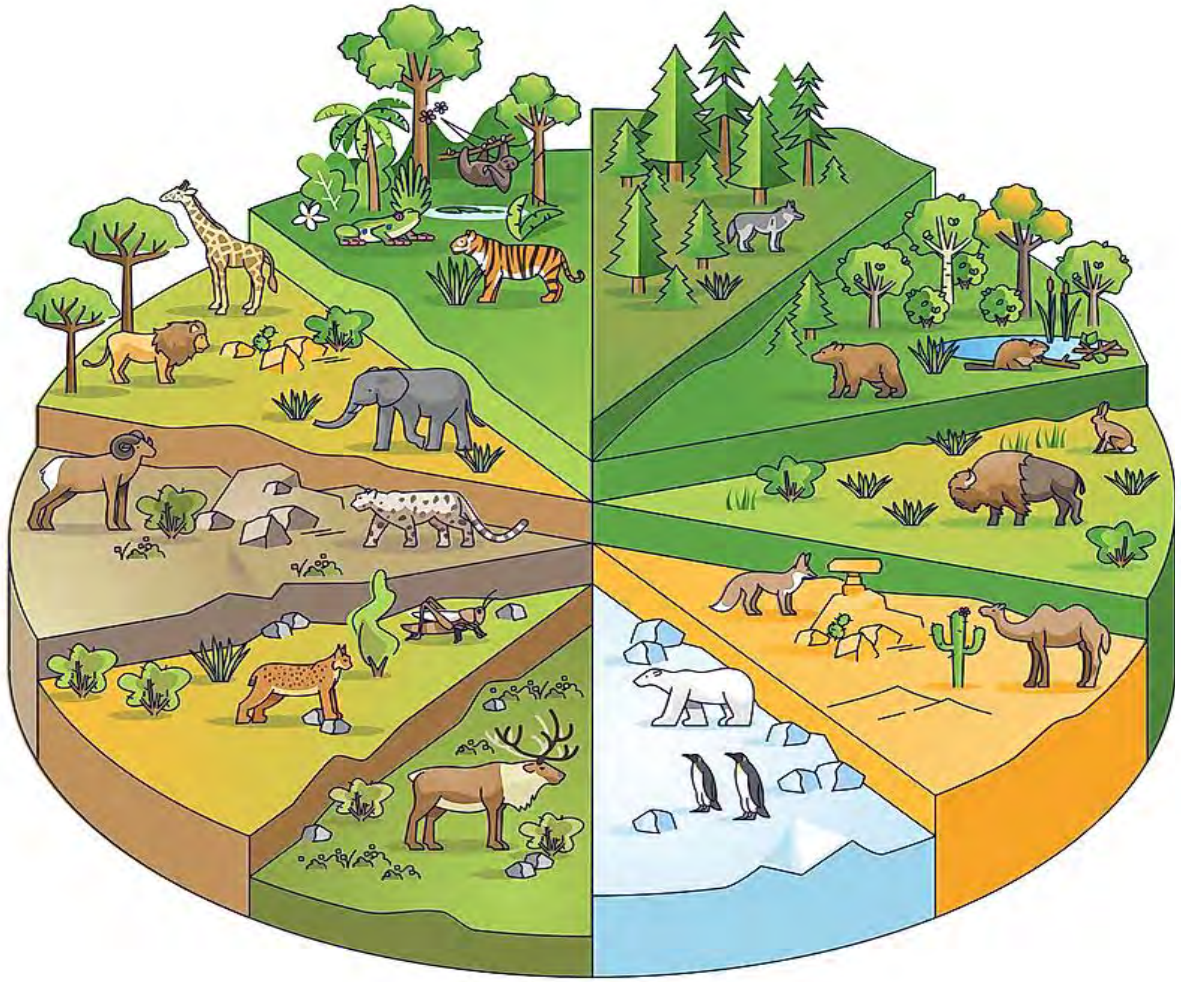
Chair North East Scotland Biodiversity Partnership

Chair Aberdeen/Aberdeenshire Scottish Wildlife Trust

Chair River South Esk Catchment Partnership

Trustee: North East Mountain Trust

Importance of Global Biodiversity



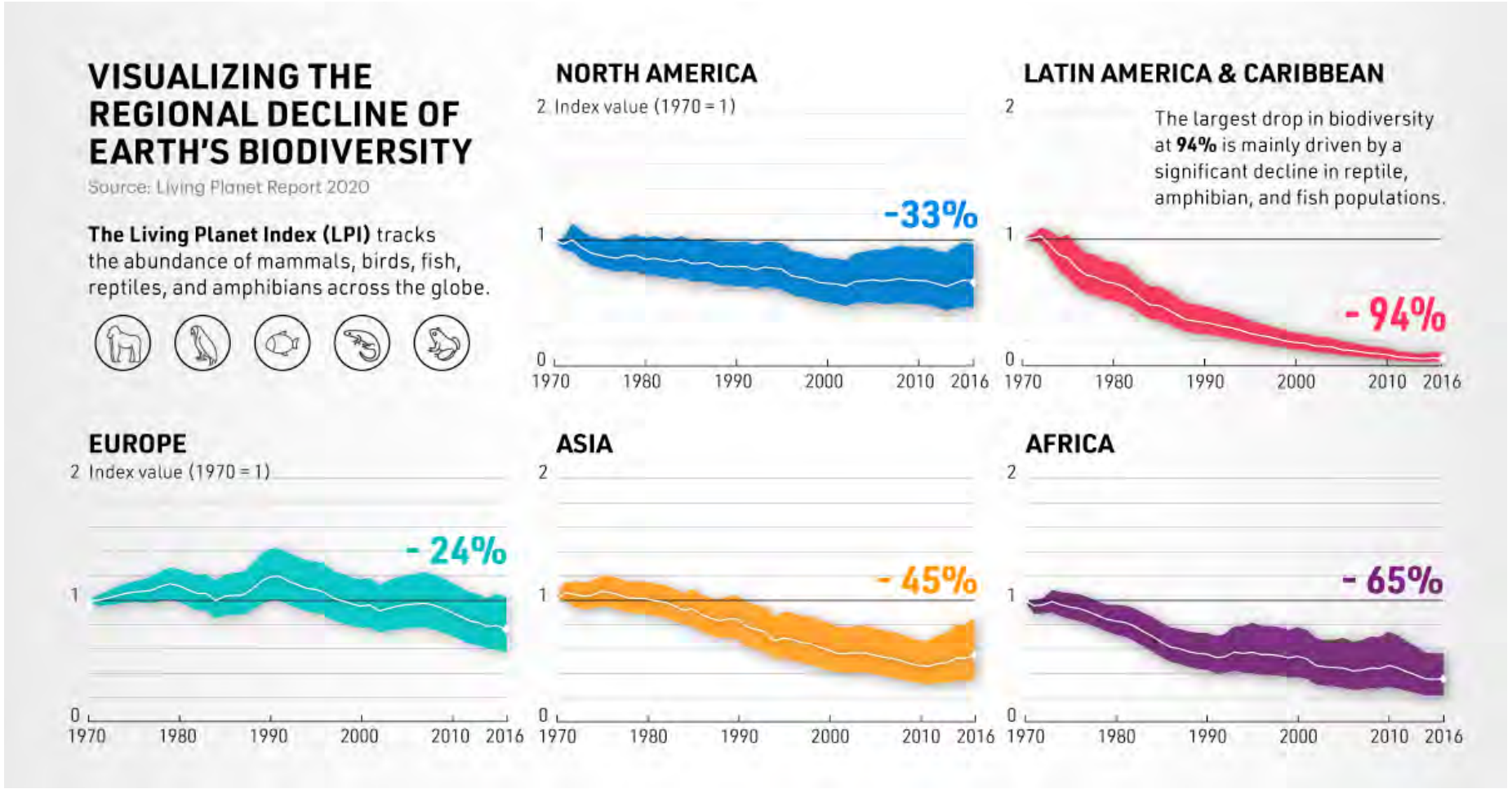
10 – 14 Million Species?

- Pollination
- Pest and disease management
- Fresh water, food, fibre, habitat and genetic resources
- Recreation and tourism
- Spiritual health, cultural identity

- Erosion prevention
- Protection from natural disasters
- Carbon sequestration and storage
- Air and water pollution control
- Nutrient cycling and soil fertility

State of Global Biodiversity

The Living Planet Index: WWF 2020



1970 to 2018

LPI: Animal Species

5,230 species
31,821 populations

69% average decline in abundance

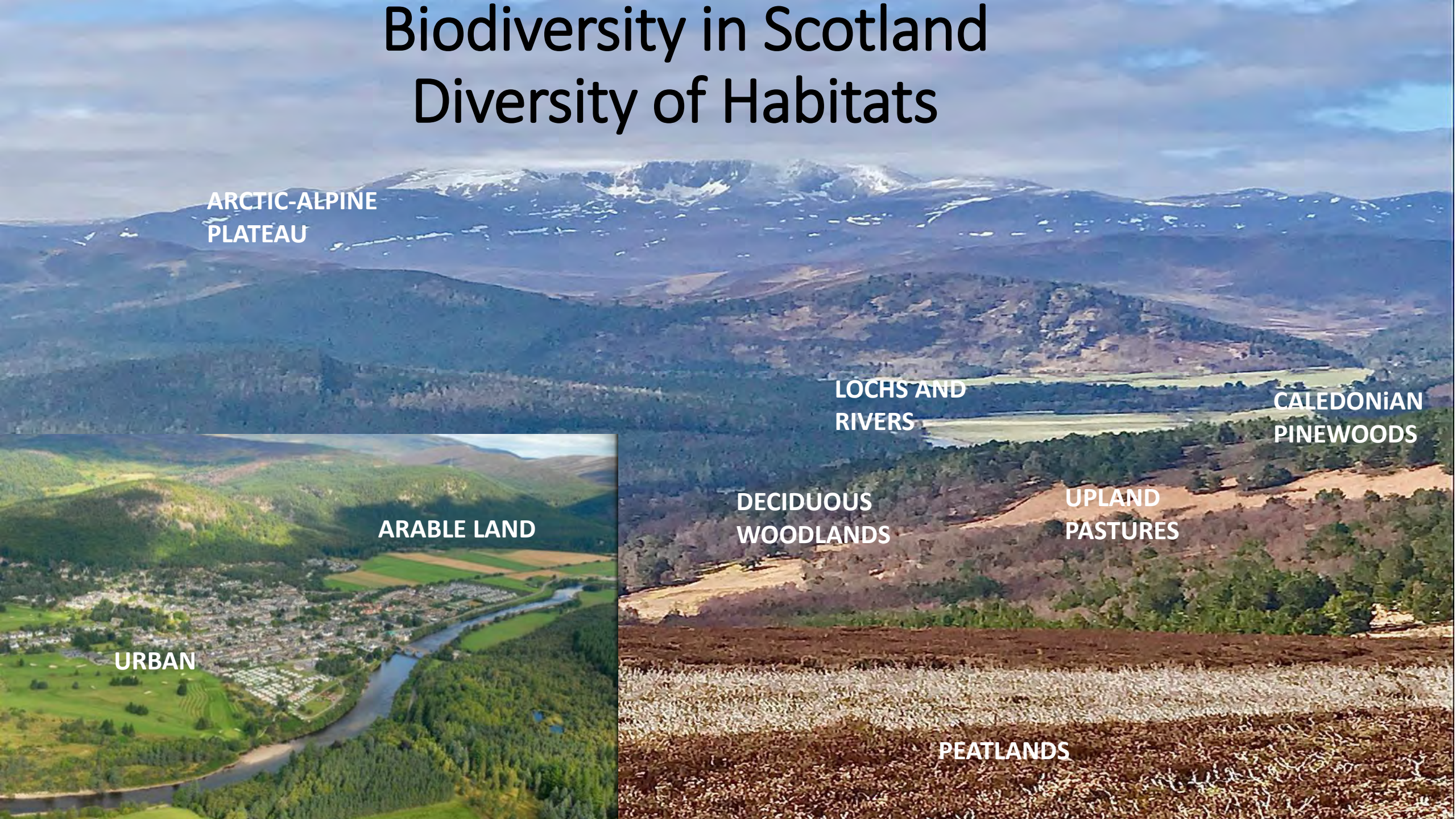
By 2030 we must achieve:

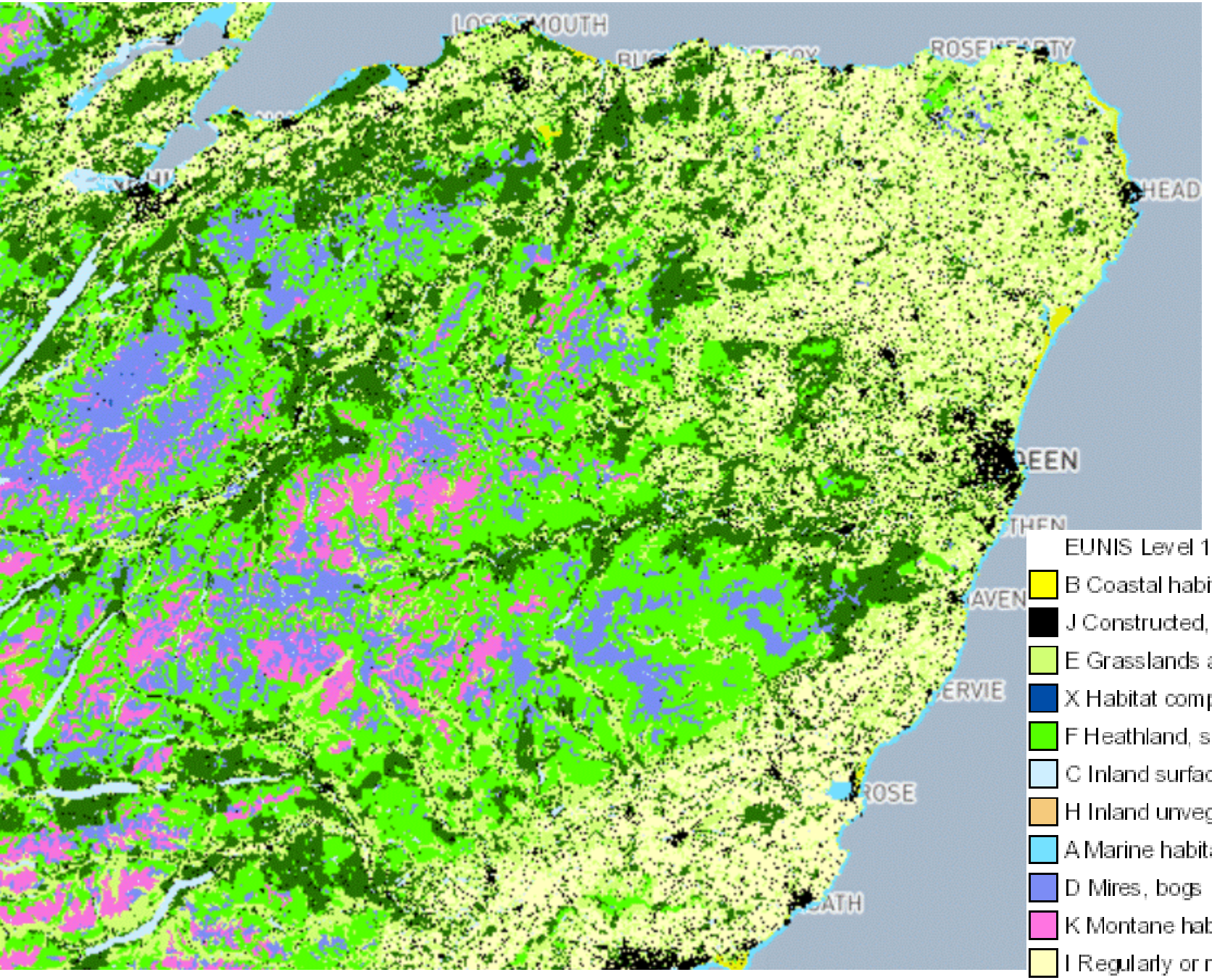
Effective conservation and management of at least 30% of the world's lands, inland waters, coastal areas and oceans

Reduce to near zero the loss of areas of high biodiversity importance

Progressively phase out or reform by 2030 subsidies that harm biodiversity by at least $500 billion per year

Biodiversity in Scotland
Diversity of Habitats



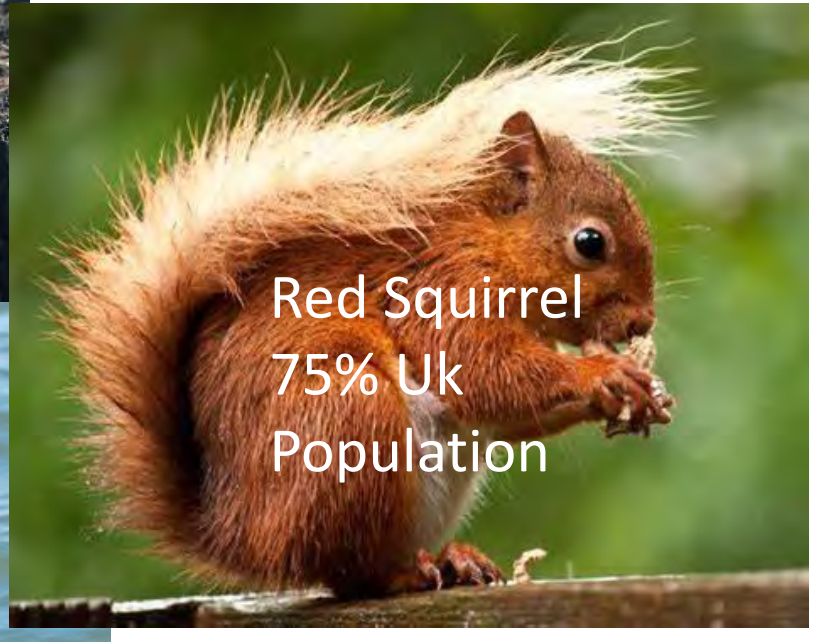

LOSSIEMOUTH
ROSEHEARTY
HEAD
EEN
AVEN
ERVIE
ROSE
ATH
EUNIS Level 1
B Coastal habitats
J Constructed, industrial and other artificial habitats
E Grasslands and lands dominated by forbs, mosses or lichens
X Habitat complexes
F Heathland, scrub and tundra
C Inland surface waters
H Inland unvegetated or sparsely vegetated habitats
A Marine habitats
D Mires, bogs and fens
K Montane habitats
I Regularly or recently cultivated agricultural, horticultural and domestic habitats
G Woodland, forest and other wooded land

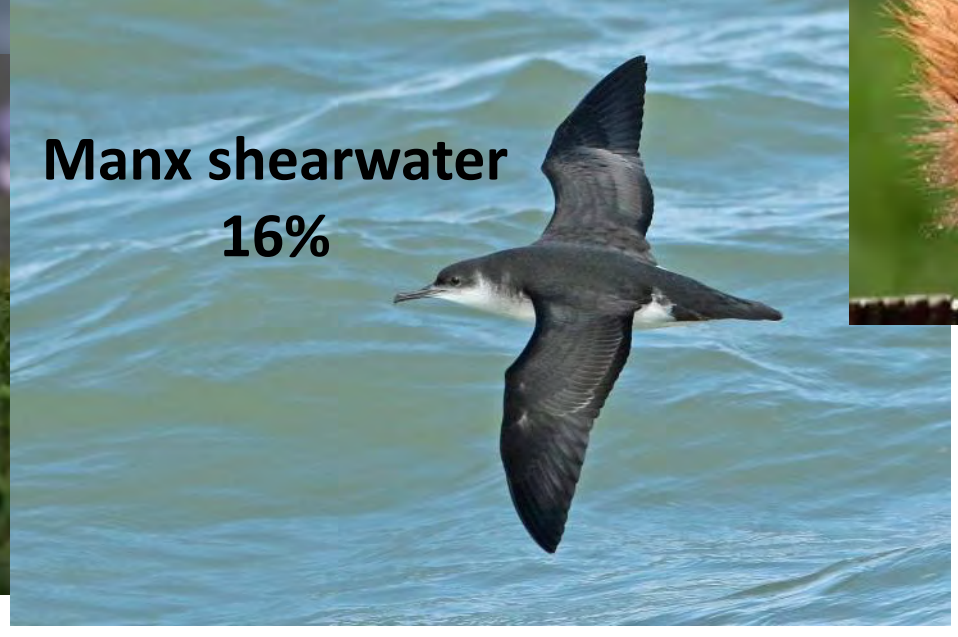
Biodiversity Cairngorm National Park

No. species in Scotland	**c. 90,000**
• **No. Invertebrate (inc. Insects) species**	**c. 24,000**
• **No. Bird species**	**c. 535**
• **No. Mammal species**	**60**
• **No. Amphibians/Reptiles**	**10**
• **No. Plant species**	**c. 2,000 (UK: 2,500 Albania: 3,200)**
• **No. Bacteria/Fungi/Protozoa**	**c. 60,000+**

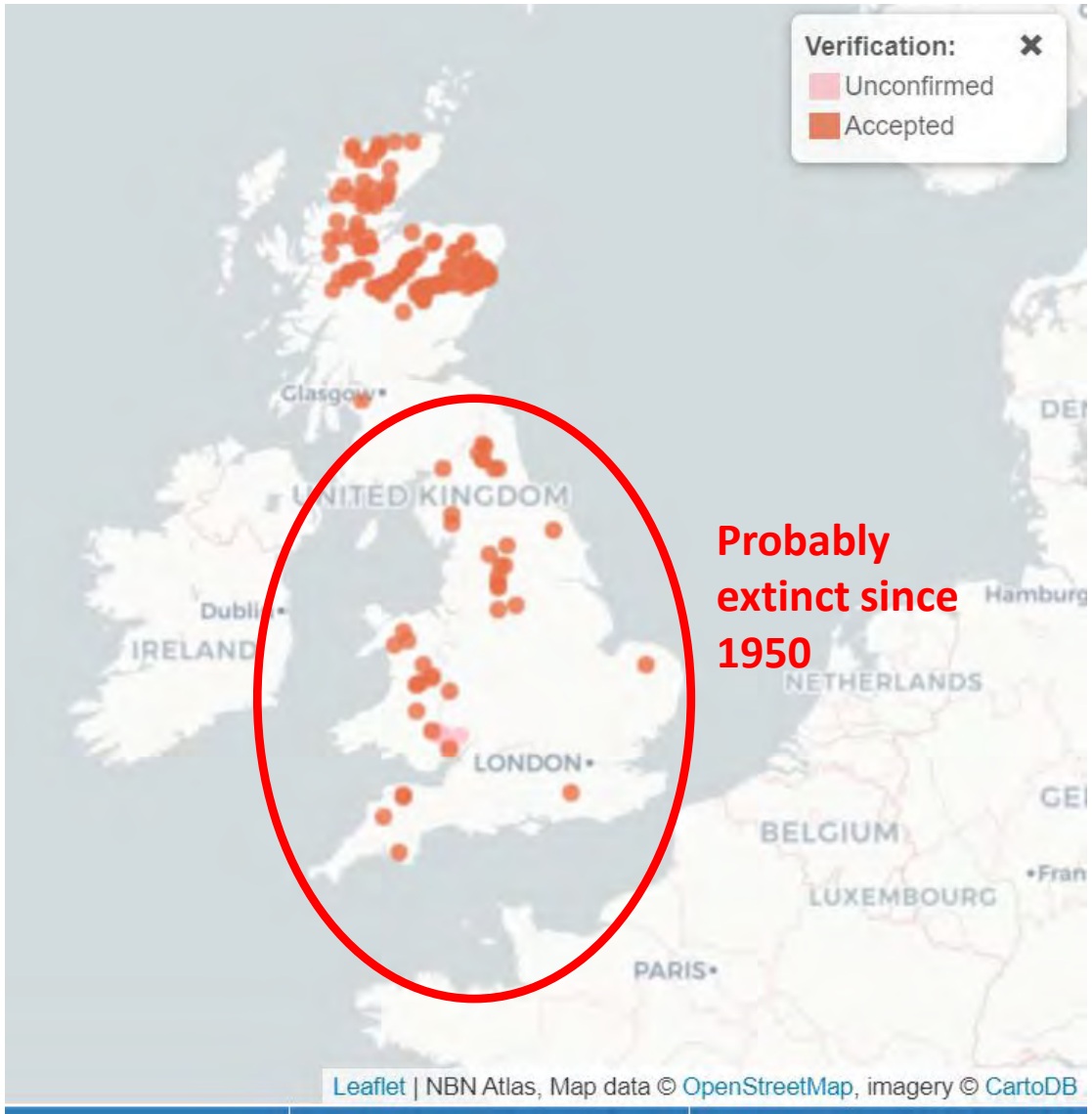
25% UK Rare and Threatened Species

Scottish Biodiversity – global significance
Share of global populations





Northerly Range Migration – cold loving species



Northern February Red stonefly

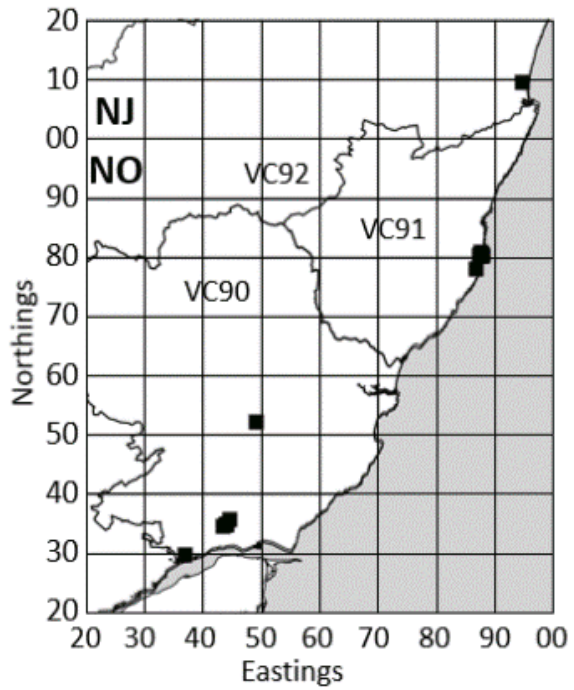
Our rarest species?

Botanical Society of Britain & Ireland

Rubus longiflorus Welch

Described in 2021

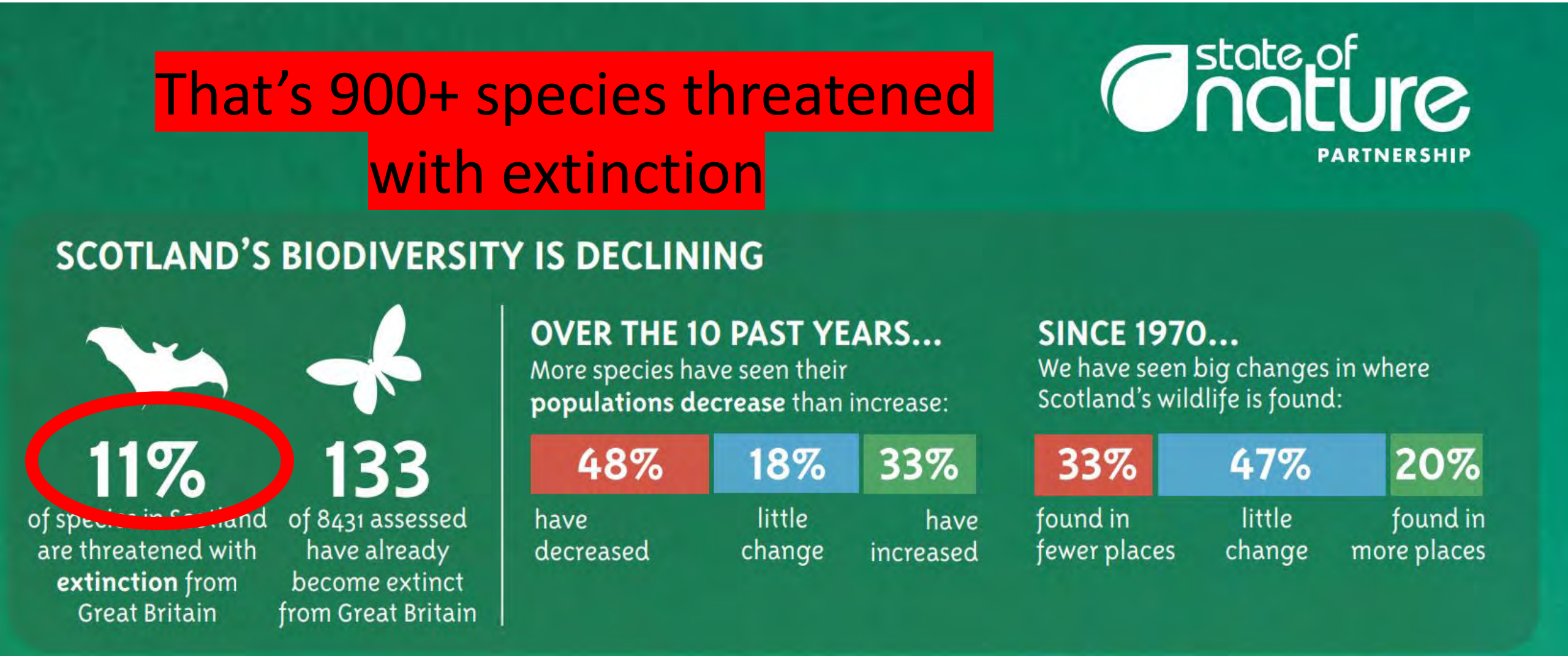
Known world distribution



Trends in Biodiversity in Scotland

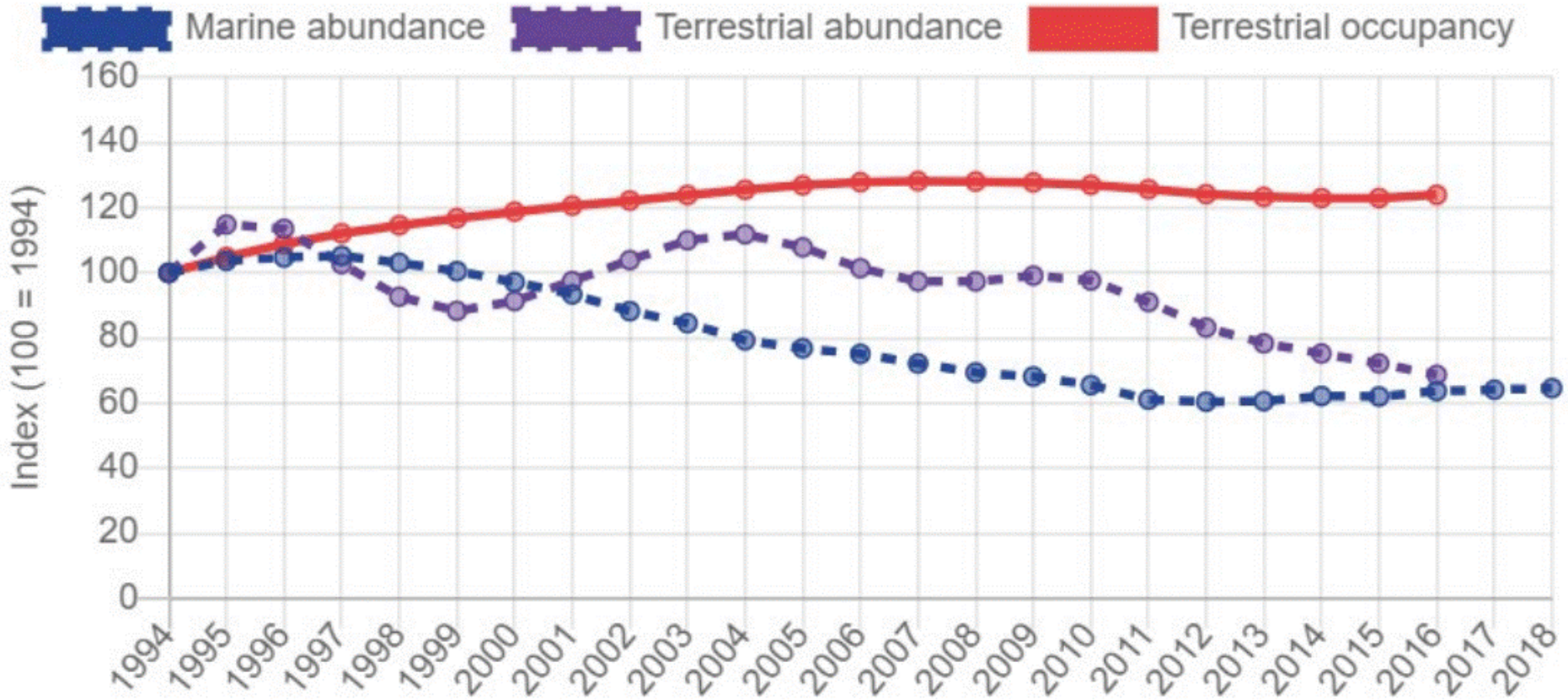
2019

That's 900+ species threatened with extinction

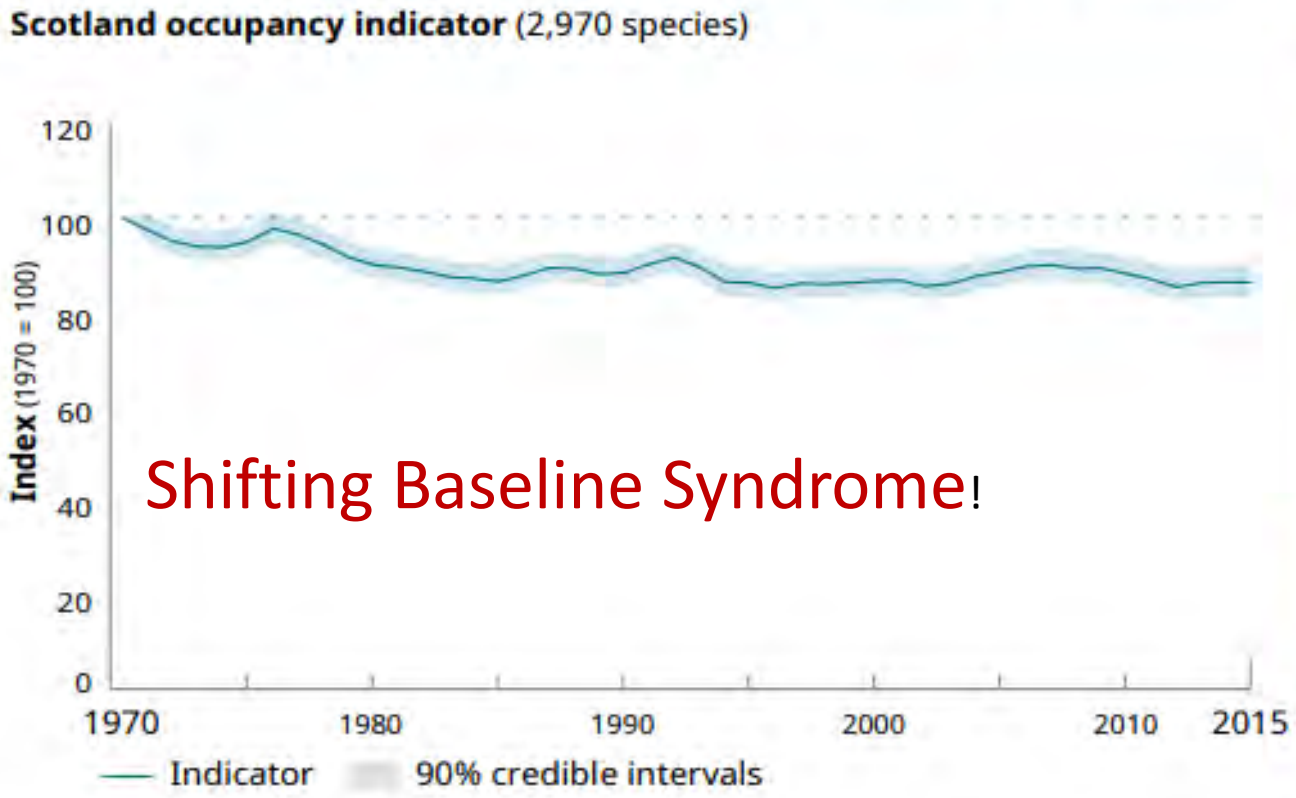


Scottish Biodiversity Strategy to 2045: Tackling the Nature Emergency in Scotland

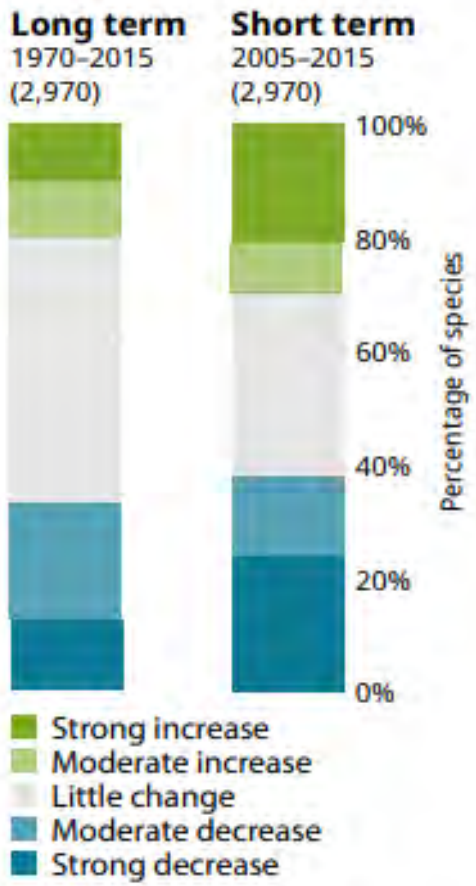
Scotland's new terrestrial and marine species indicator gives a robust image of the **overall** picture of decline[5]



CHANGE IN SPECIES' DISTRIBUTION IN SCOTLAND



Shifting Baseline Syndrome!

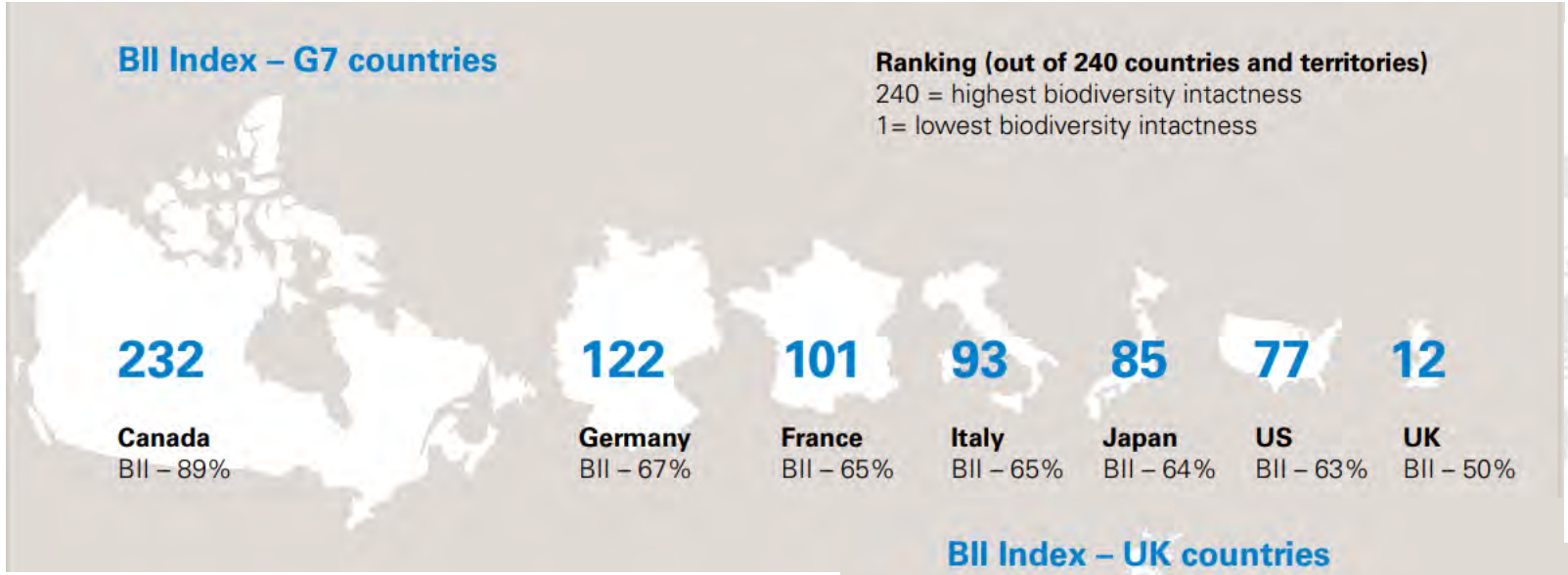


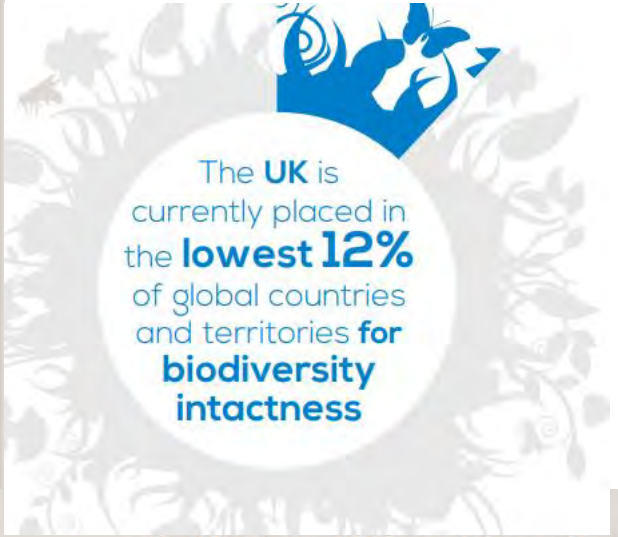
14% decline 1970 – 2015; 2% decline 2005 - 2015

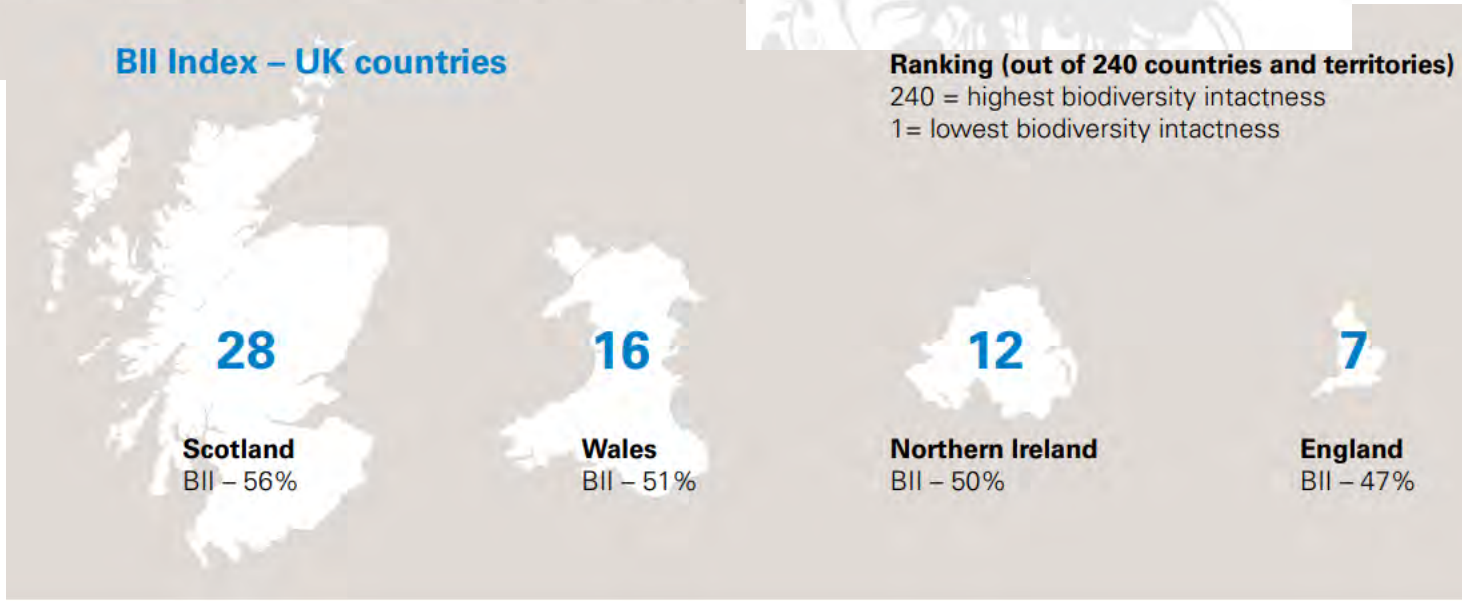
Biodiversity Intactness Index (Natural History Museum & RSPB)

How much biodiversity is left from the original pristine state

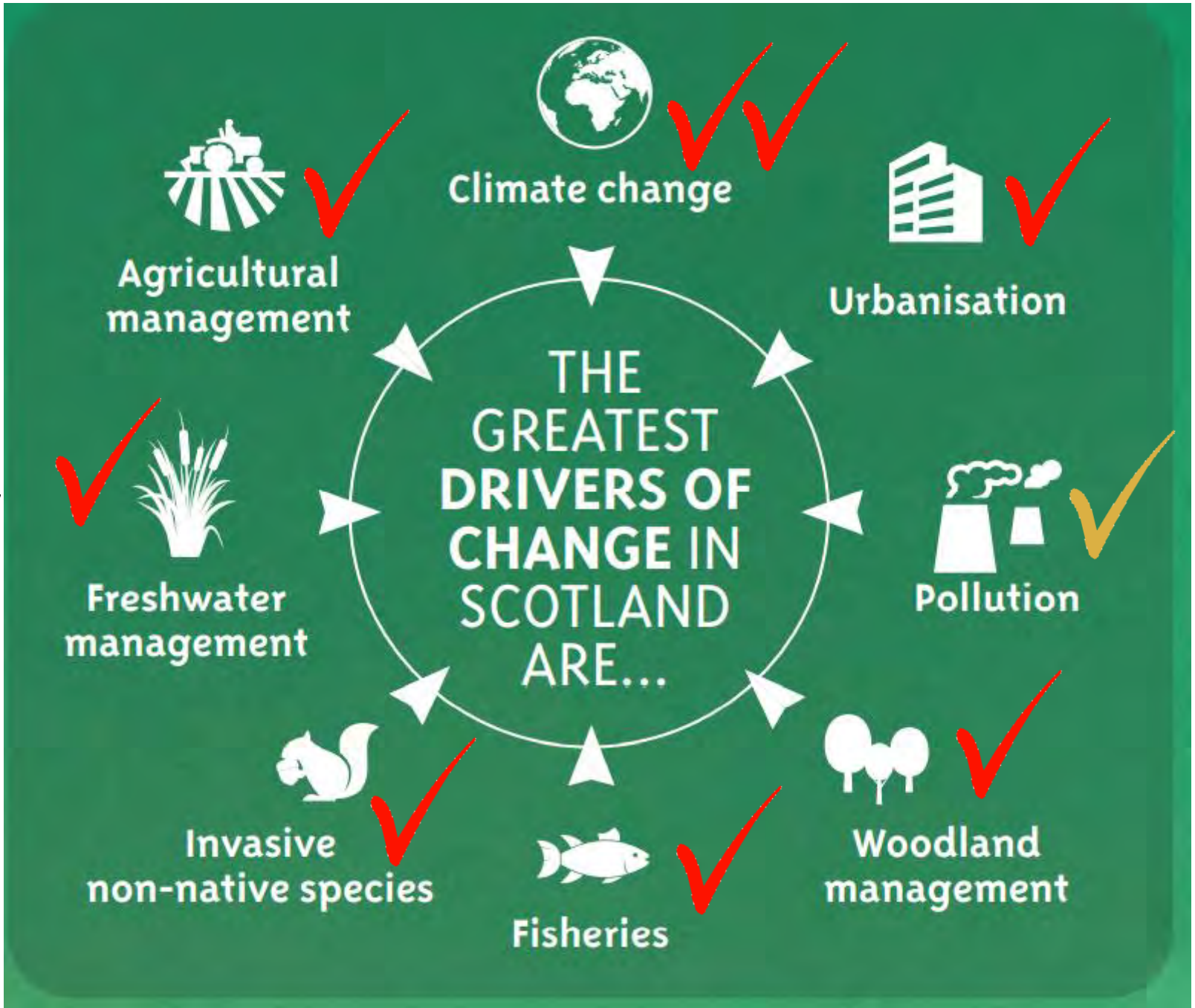
Data from 54,000+ species: birds, mammals, plants, fungi, insects







Human pressures driving biodiversity loss in Scotland



Scottish Biodiversity Strategy – proposed vision

By 2045, Scotland will have restored and regenerated biodiversity across our land, freshwater and seas.

Our natural environment, our habitats, ecosystems and species, will be diverse, thriving, resilient and adapting to climate change.

Expand our Protected Areas to at least 30% of the land and seas by 2030

CoP15 30x30 Pledge:

How much of UK is Protected for Nature?

UK Government: 28% of land protected for nature

BUT:

11.4% of land is ***primarily*** protected for nature

4.9% of UK land may be ***effectively*** protected for nature

Included: Designated landscapes such as National Parks, and Areas of Outstanding Natural Beauty

Not specifically protected for nature

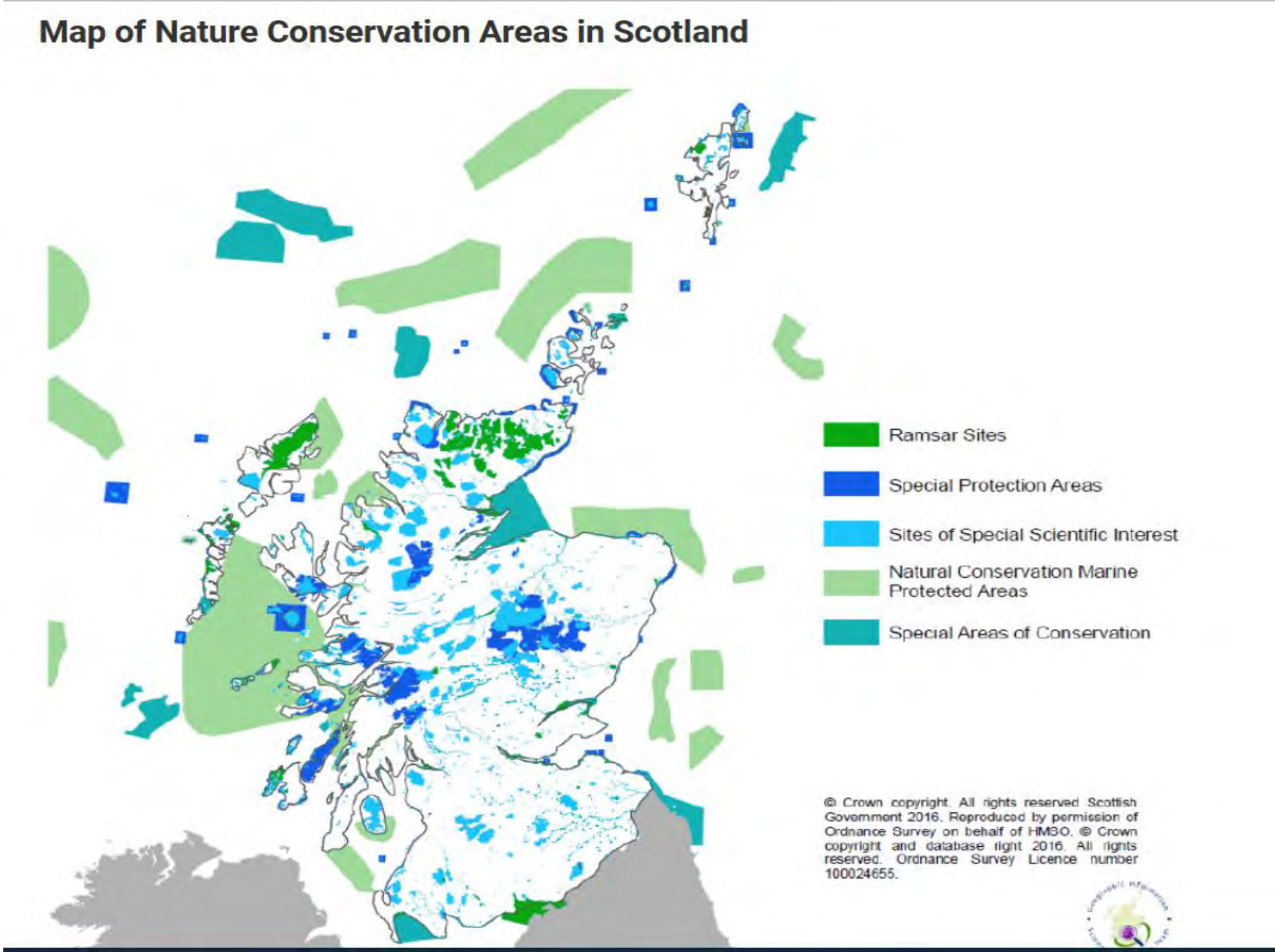
RSPB, Global Ecology and Conservation

Marine Protected Areas: 37% of sea area

But includes 8 areas for historical importance

Protected Land Area: 18%

But 20% unfavourable condition plus Includes landscape areas and National Parks



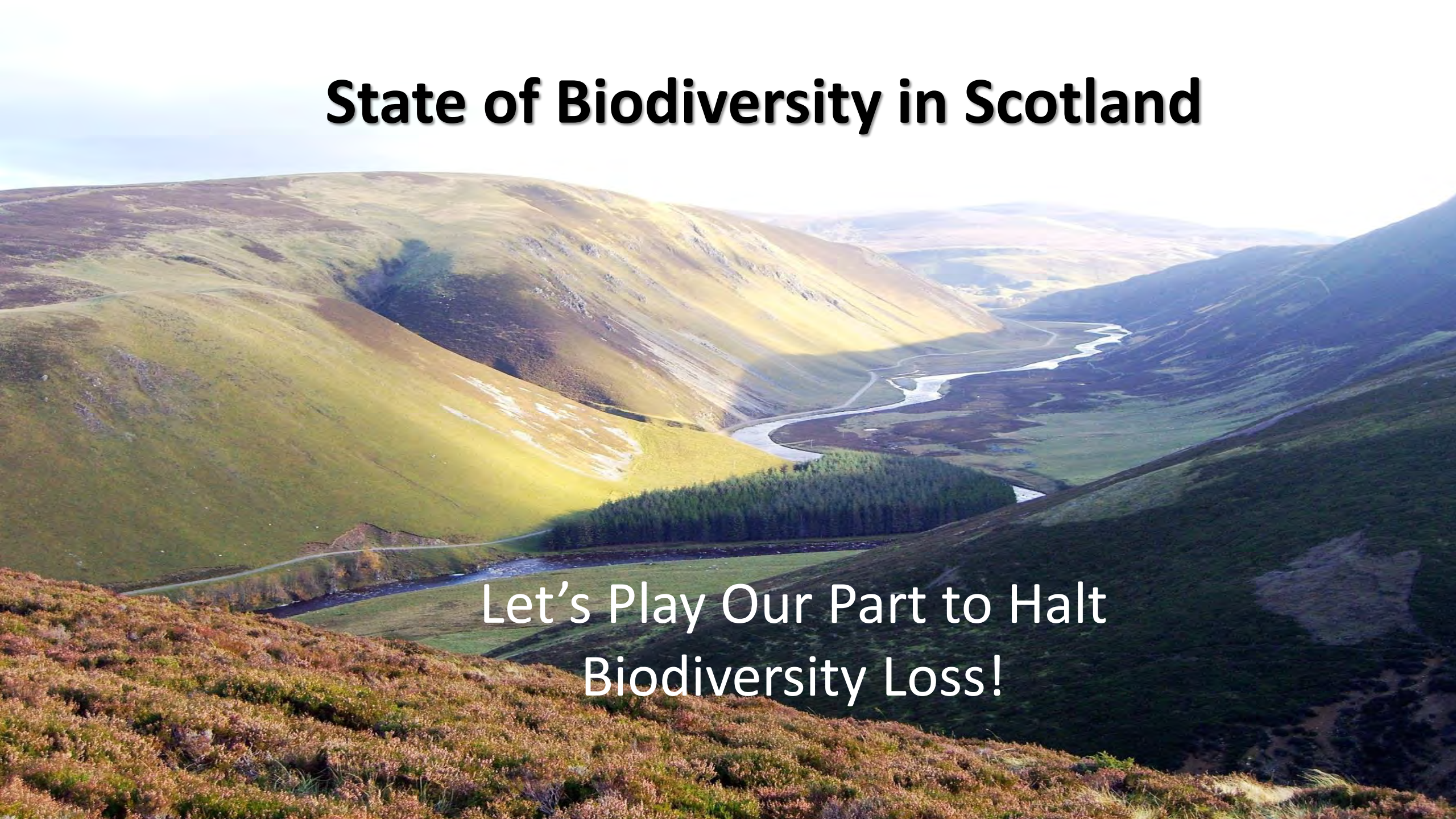
Aberdeen Harbour Extension Project &
Aberdeen Energy Transition Zone

Threatend loss of amenity and wildlife at the award winning St Fittick's Community Park
Strongly challenged by Friends of St Fittick's Park

- Award winning East Tullos Burn restoration
- Linking site for coastal biodiversity
- Amenity and health of residents

From "interactive story map", Proposed Local Development Plan 2020

State of Biodiversity in Scotland



Let’s Play Our Part to Halt Biodiversity Loss!


1495
UNIVERSITY OF
ABERDEEN
Climate and
Sustainability Assembly
Becoming a Nature-Positive University

1495 UNIVERSITY OF ABERDEEN | CELEBRATING 525 YEARS 1495 – 2020

ABERDEEN 2040

Biodiversity Innovation in HE Sector

Alex Stuart – Sustainable Development Officer

March 2023

How Does a University Affect Biodiversity?

"As universities, we occupy a unique position in educating future leaders, researching solutions to environmental challenges, and influencing our communities and governments.

By addressing our own institutions' environmental impacts, we can be powerful thought leaders while also directly contributing to restoring nature.“

E.J. Milner-Gulland, Tasso Leventis Professor of Biodiversity at the Department of Biology, University of Oxford,

and co-founder of the Nature Positive Universities Alliance

University Innovation

Oxford University – 2021 – Net Zero Carbon Emissions and Net Gain in Biodiversity by 2035

1st in the world to examine their entire organisation's environmental impact from day-to-day running on biodiversity

Home 〉 News 〉 Researchers assess Oxford University's impacts on biodiversity and how to mitigate them

PUBLISHED
21 APR 2022

Researchers assess Oxford University's impacts on biodiversity and how to mitigate them

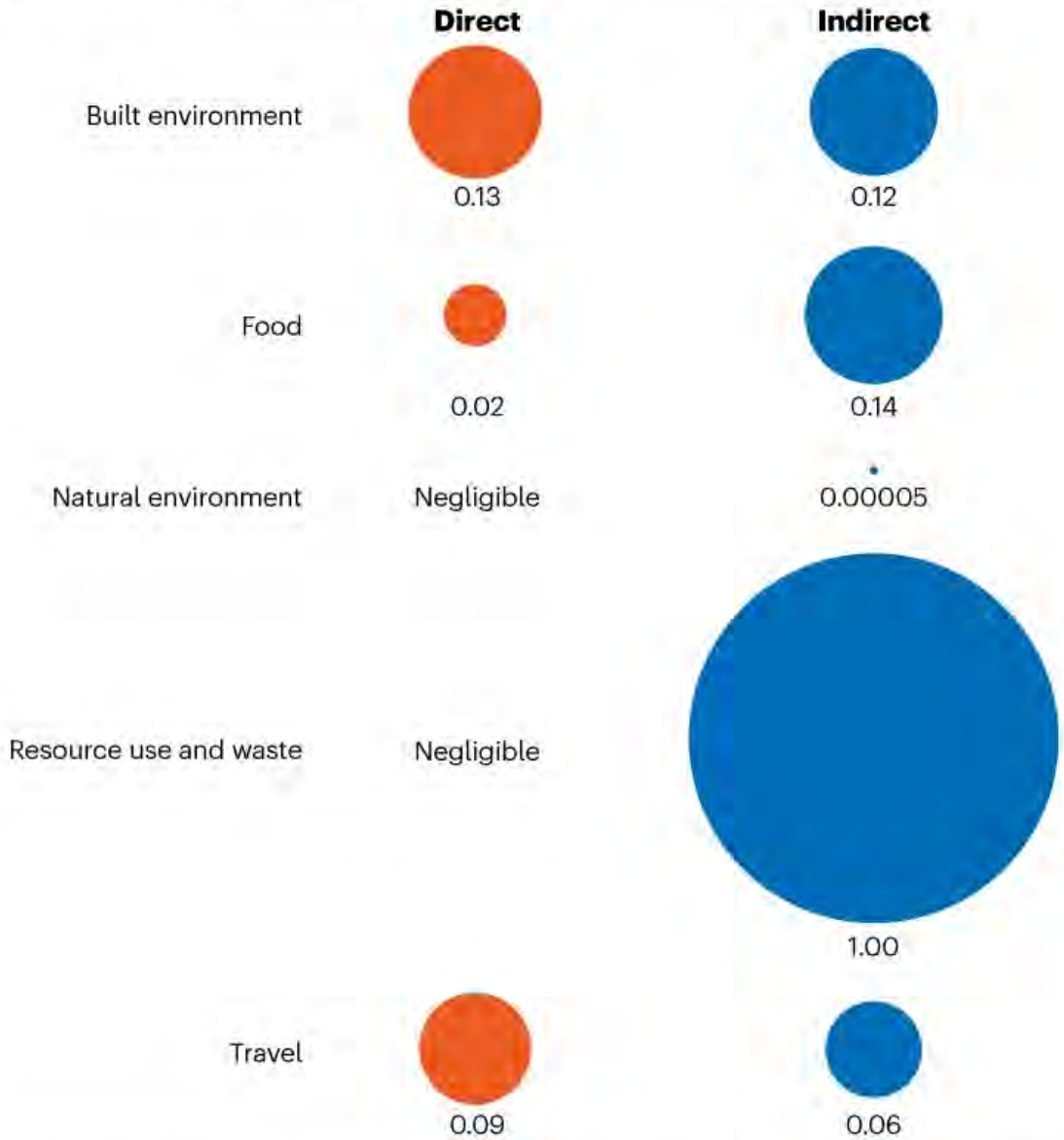
Teaching, procurement data, travel, utilities…
+ greenhouse gas emissions -> biodiversity impacts through climate change

GHG footprint = the eastern Caribbean island nation of Saint Lucia (population 180,000)

Two orders of magnitude smaller than Microsoft's greenhouse-gas footprint
One order of magnitude larger than that of the London Stock Exchange

UPSTREAM EFFECTS

The University of Oxford's biggest impact on biodiversity* is from the indirect effects of resource use and waste in external supply chains it does not control.



*As measured by local relative species loss for each impact category (see M. A. J. Huijbregts *et al. Int. J. Life Cycle Assess.* **22**, 138–147 (2017) for method).

nature

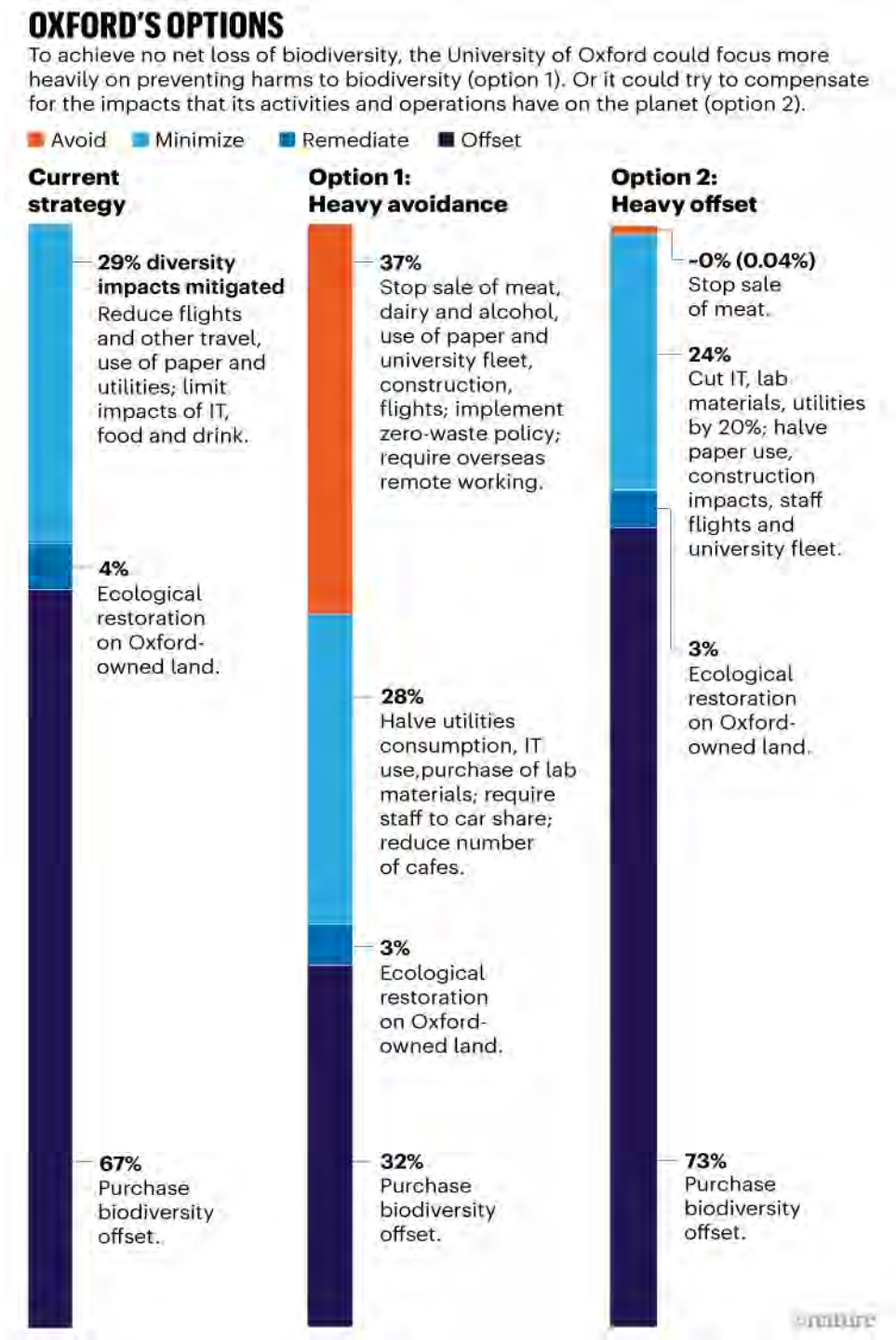
Current Strategy

Option 1 – Heavy Avoidance – halving utilities, halving purchasing, no paper, no fleet, no construction, no flights

Option 2 - Heavy Offset – cutting utilities 20%, cutting 50% paper use, 50% construction, 50% flights and 50% fleet

<u>Only 3-4% reduction of biodiversity impact from ecological restoration on university-owned land</u>

All scenarios involve biodiversity offset (32-73%!)



Nature Positive University Alliance

117 universities from 48 countries

Pledging:

- Baseline assessments
- SMART targets
- Bold action to reduce biodiversity impacts and restore ecosystems
- Transparent annual reporting

Mainstreaming Policy and Action

Biodiversity Policy

Biodiversity Action Plan

University of Edinburgh

"The University will protect existing biodiversity on campuses and enhance opportunities for biodiversity by taking a holistic approach that prioritises our interactions with wider communities of organisms, including humans, and dynamic landscapes."

University of Strathclyde

"We are committed to actively enhancing and promoting biodiversity on our grounds. Benefits include supporting biodiversity in our local neighbourhoods and region, enhancing the health and well-being of our staff, students, visitors and the wider community."

Mainstreaming Policy and Action

Biodiversity Policy

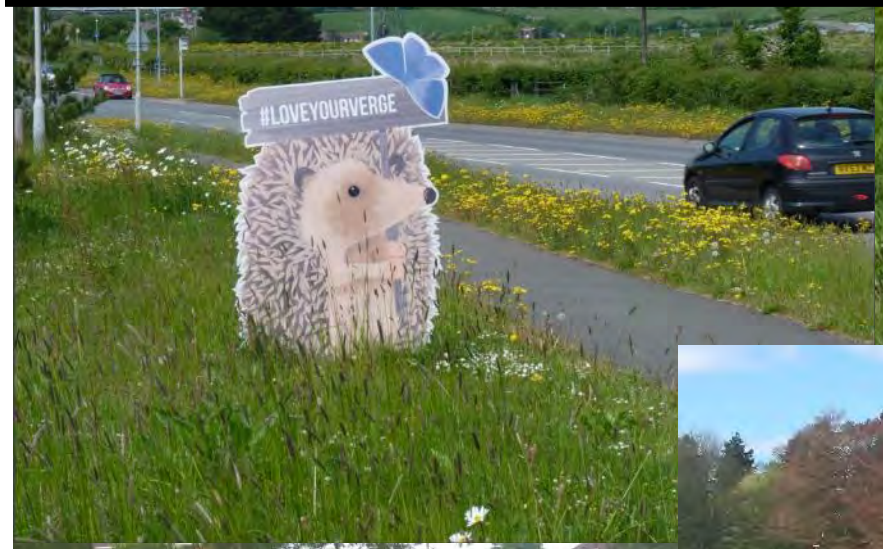
Biodiversity Action Plan

Good action plans

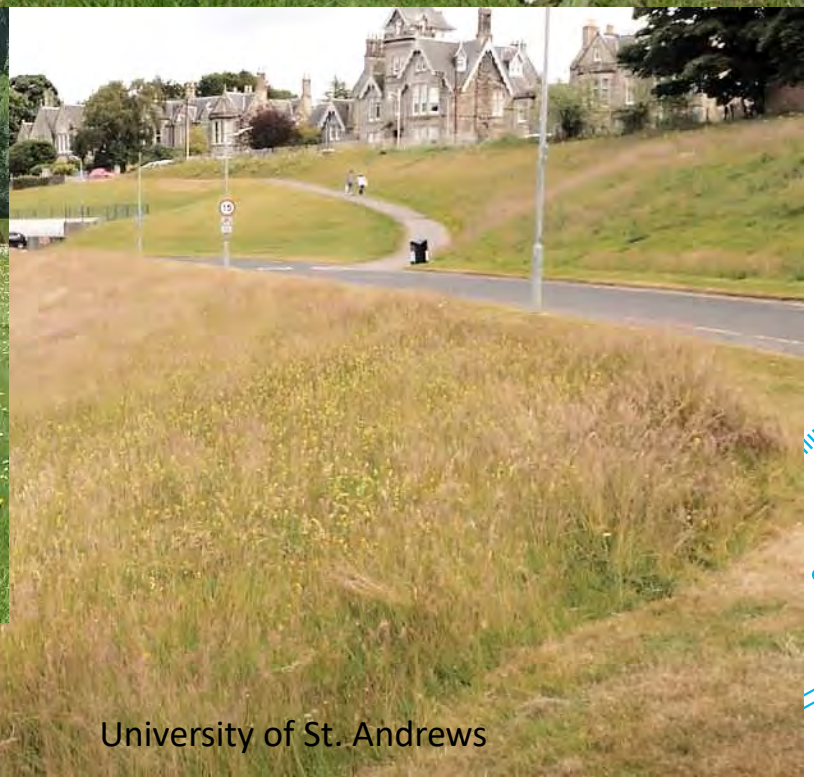
- KPI's
- Time-limited
- Mainstreaming across departments - not just Grounds!
- Start with baseline surveying

So what could biodiversity improvements look like on campus…?

Reduced Mowing of Grass Areas



Holland Road, Blandford after 2yrs cut-and-collect



University of St. Andrews

Low-growing Wildflower Areas / ’Livng Lawns’

Native Wildflower Area (Seeded)

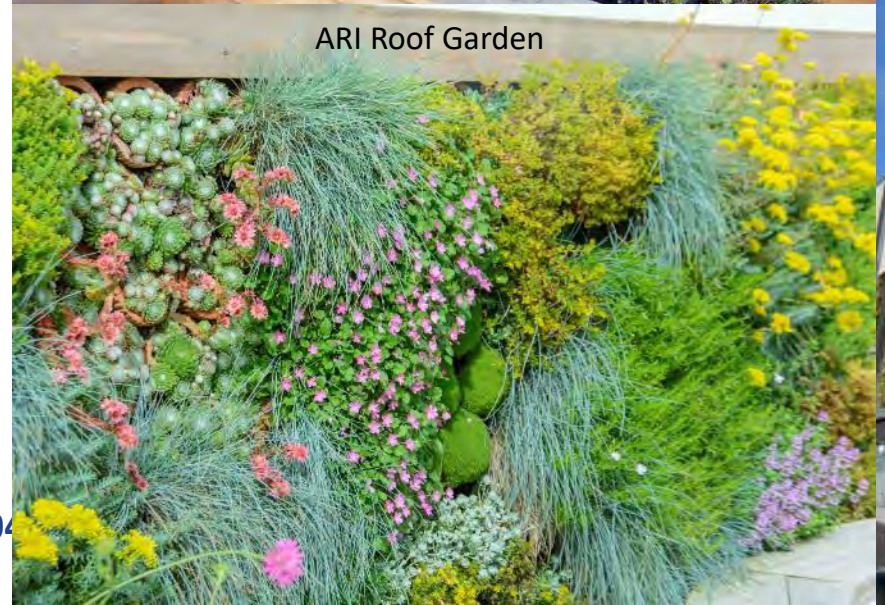
SUstainable DrainageSystem
Pond

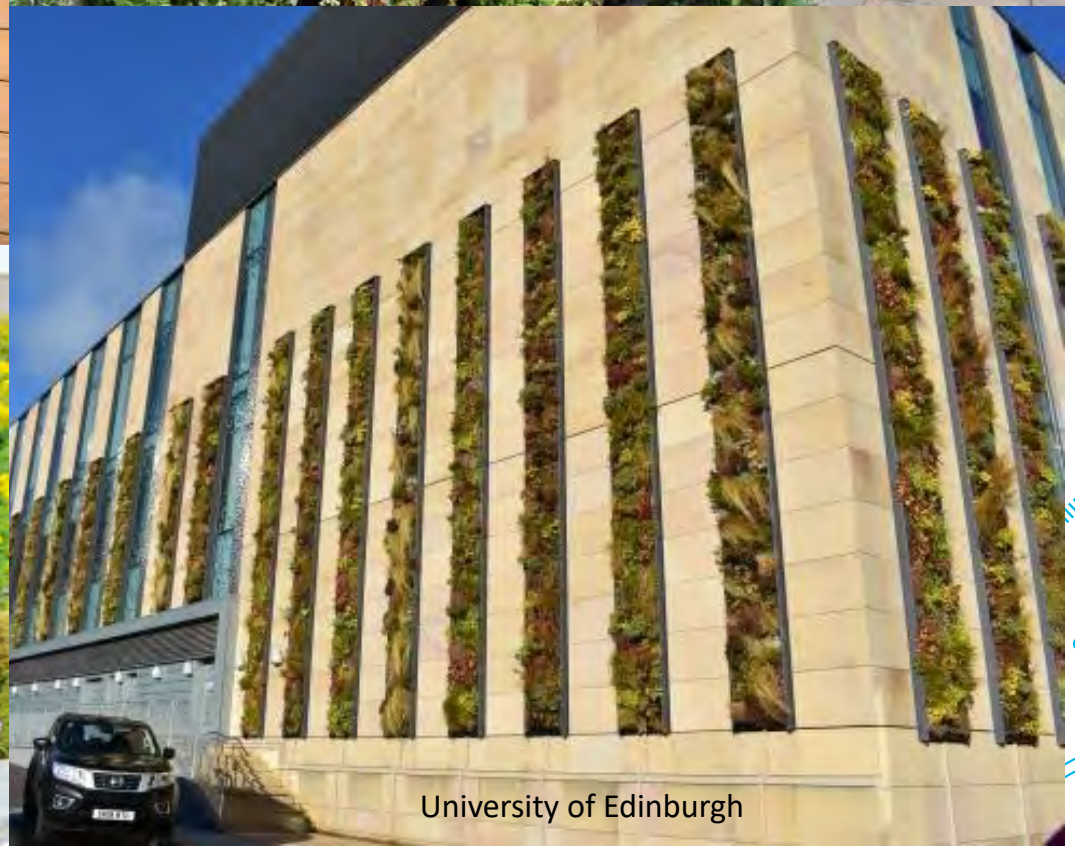
SUstainable Drainage System
Rain Garden

Biodiverse Green Roof

Green Wall

ARI Roof Garden





University of Edinburgh

Bulb Planting

Mixed Native Hedging

Native Tree Planting

Native trees: food for invertebrates

Tree species	No. of Inverts
Willow	450
Oak	423
Birch	334
Hawthorn	209
Poplar	189
Scots Pine	172
Blackthorn	153
Alder	141
Crab Apple	118
Bramble	107
Hazel	106
Rowan	58

Kennedy, CEJ, & Southwood, TRE, (1984) . The number of insects associated with British trees: a re-analysis. *J. Animal Ecol.* **53**: 455-478.

Wildlife Habitat Creation

Community Food Growing

Intervention	Initial Cost	Benefit to Wildlife	Maintenance Costs	Community Involvement?
Reduced Mowing of Grass Areas	-£-£-£		-£	
Low Growing Wildflower Areas / 'Living Lawns'	-£ / £		-£	
Native Wildflower Area (Seeded)	££		-£	
Sustainable **D**rainage **S**ystem Pond	££ / £££		£	
Sustainable **D**rainage **S**ystem Rain Garden	££		£	
Biodiverse Green Roof	££		£	
Green Wall	£££		£££	
Bulb Planting	£		-£	
Mixed Native Hedging	££		£	
Native Tree Planting	££		££	
Wildlife Habitat Creation	£		£	
Community Food Growing	£		££	


1495
UNIVERSITY OF
ABERDEEN
Climate and
Sustainability Assembly
Becoming a Nature-Positive University