

# Farmland Biodiversity in Irish Agri-Landscapes

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AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY



# Farmland Biodiversity in Irish Agri-Landscapes Introduction

1. What is biodiversity and how intensification of agriculture leads to its loss

2. What the benefits of biodiversity on farmland are for farmers and wider benefits to society

3. Status of Irish biodiversity

4. International and national plans to restore biodiversity on farmland

# Biodiversity is an important national resource

## Biological diversity

- Species richness (different species)
- Ecosystem complexity (integrity, diversity and resilience)
- Genetic variation (variability in hereditary characteristics)

Ireland has ~32,500 species living within 117 habitats



# Decline in farmland biodiversity due to intensification of land use



Semi-natural habitats and extensive agriculture - high number of species and grassland habitats

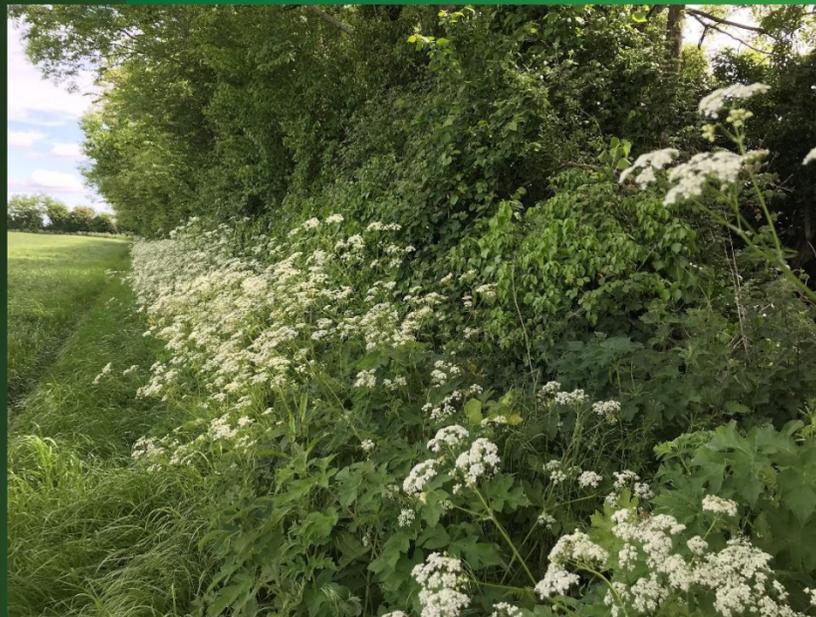
Intensification of agriculture - gradual decline of species and grassland habitats

Intensive agriculture - high nutrient input, significant decline of species and grassland habitats

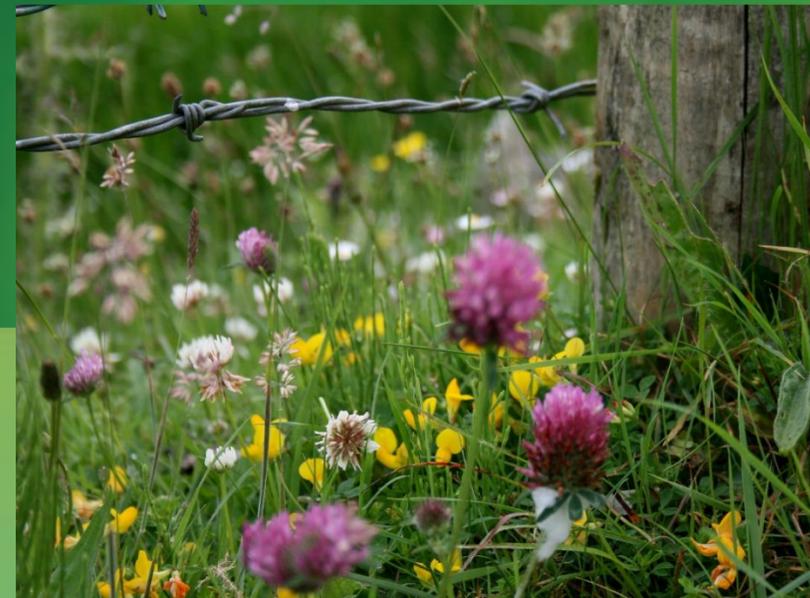
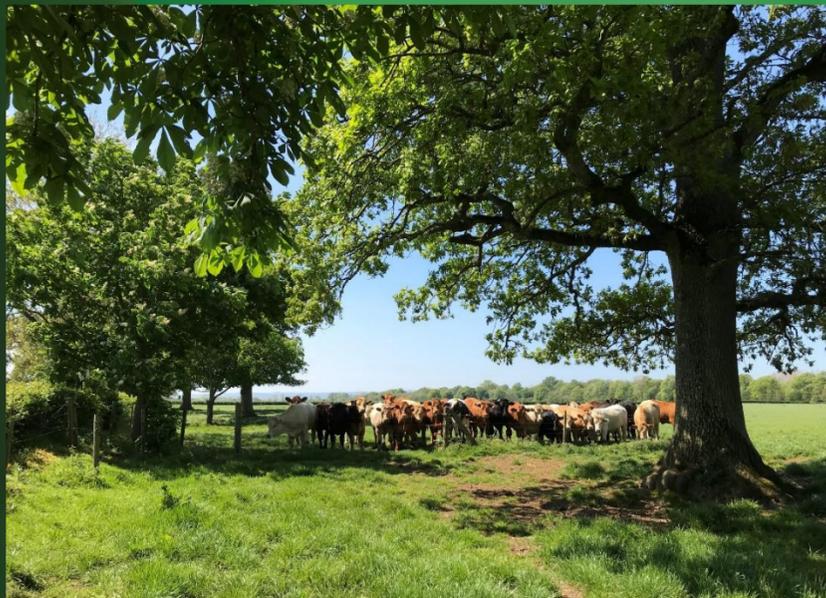
European Court of Auditors (2020)

[Biodiversity on farmland: CAP contribution has not halted the decline](#)

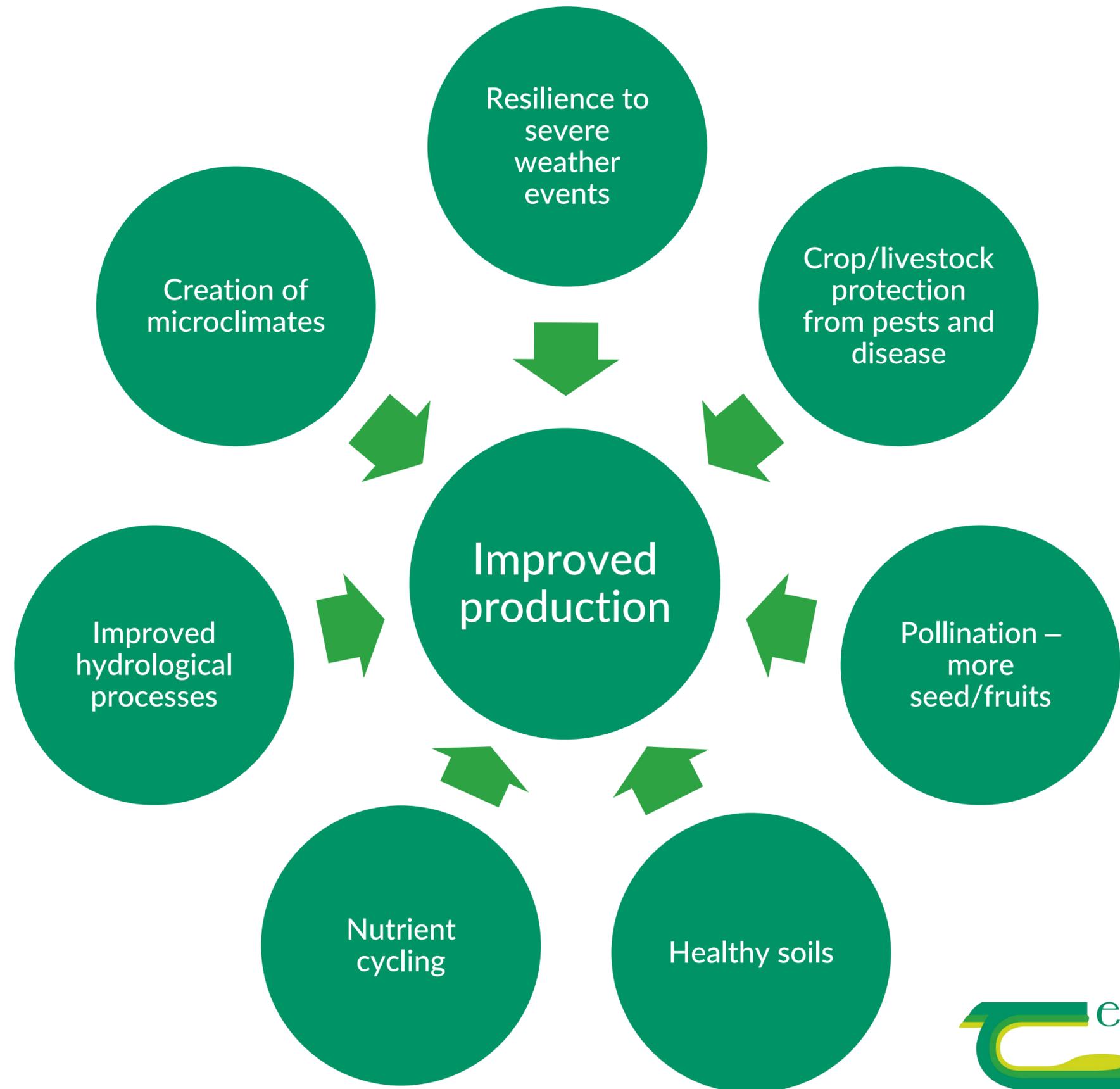
# Biodiversity benefits



What does good look like?



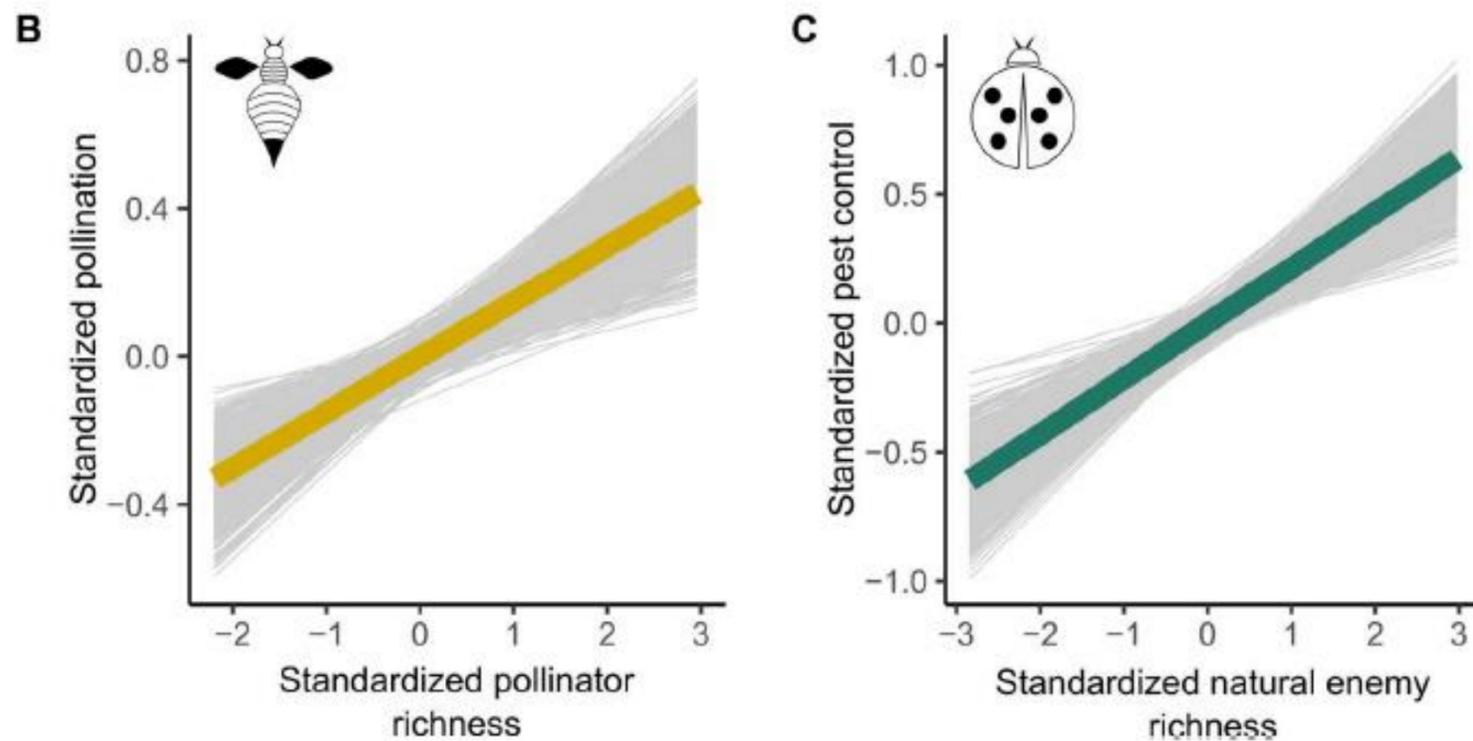
# Biodiversity benefits for farming



# Biodiversity benefits for farming

More species → more pollination and pest control in farmland

Different types of pollinators have different traits – this can maximise yield across crops

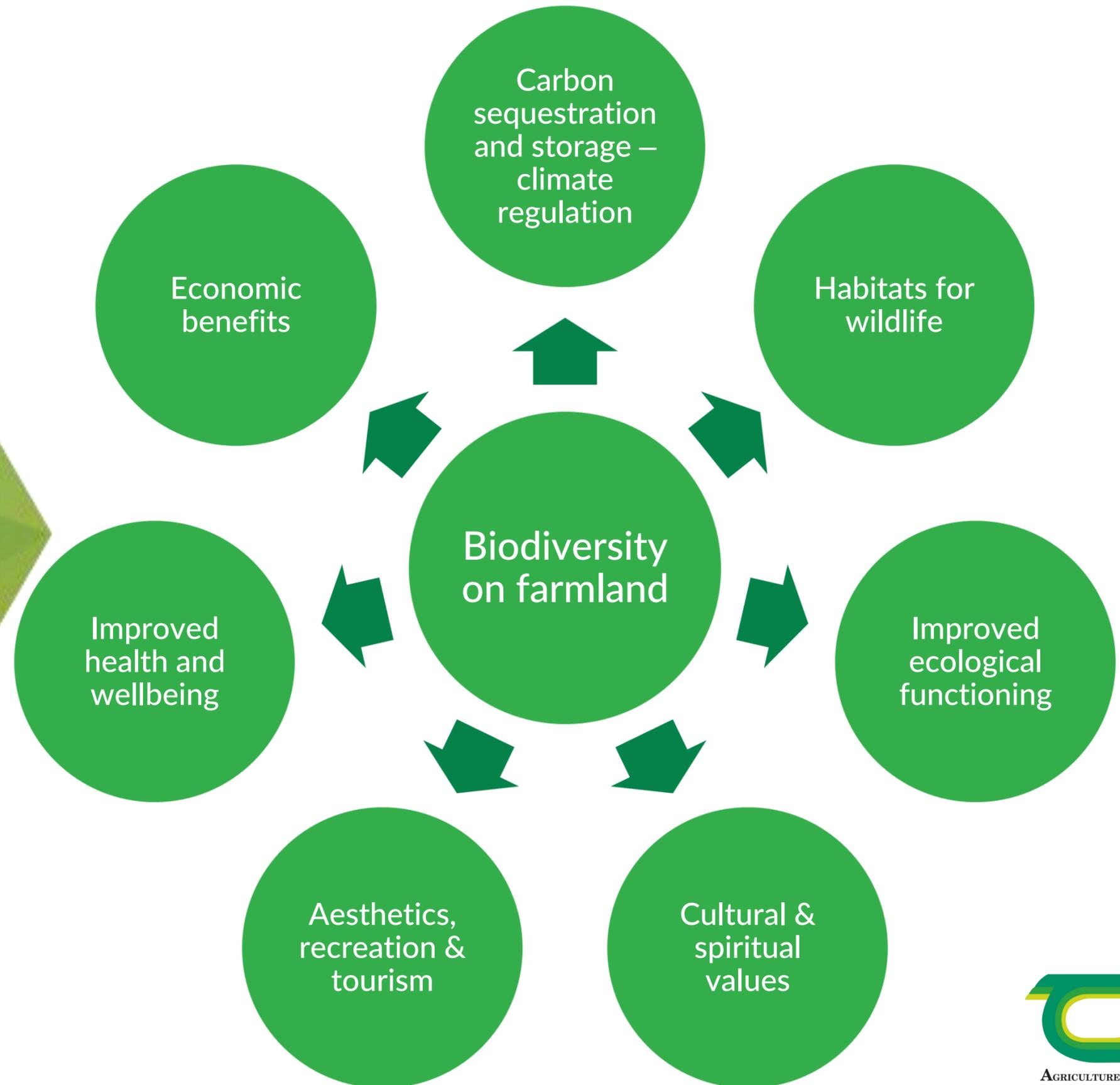


Dainese *et al.* 2019 Science Advances



Woodcock *et al.* 2019 Nature Comms

# Biodiversity on farmland has wider benefits



# Biodiversity on farmland has wider benefits - 2

## Habitats for wildlife

Solitary mining bee nest sites created by livestock

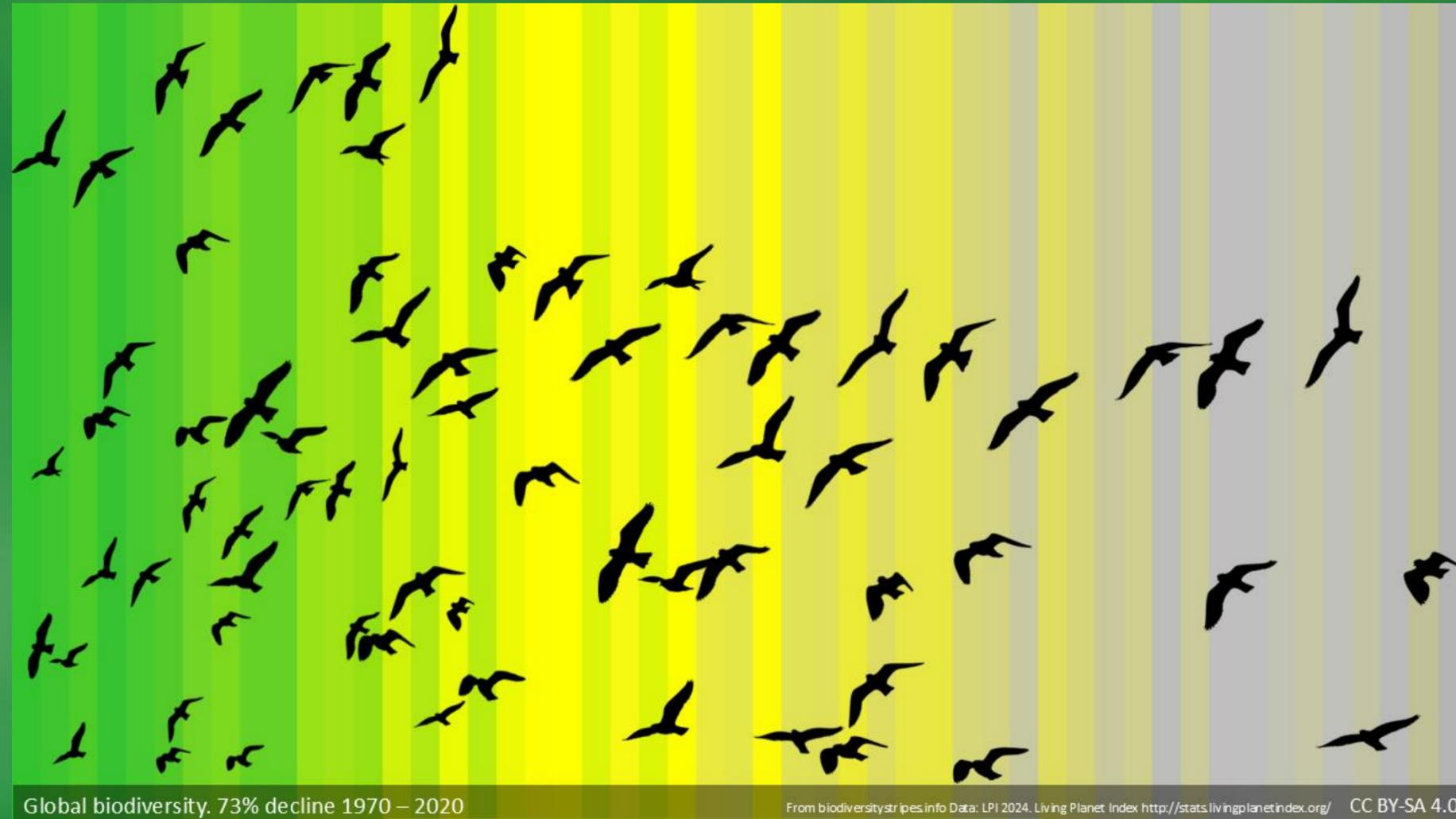


## Cultural values

The Burren Winterage Festival

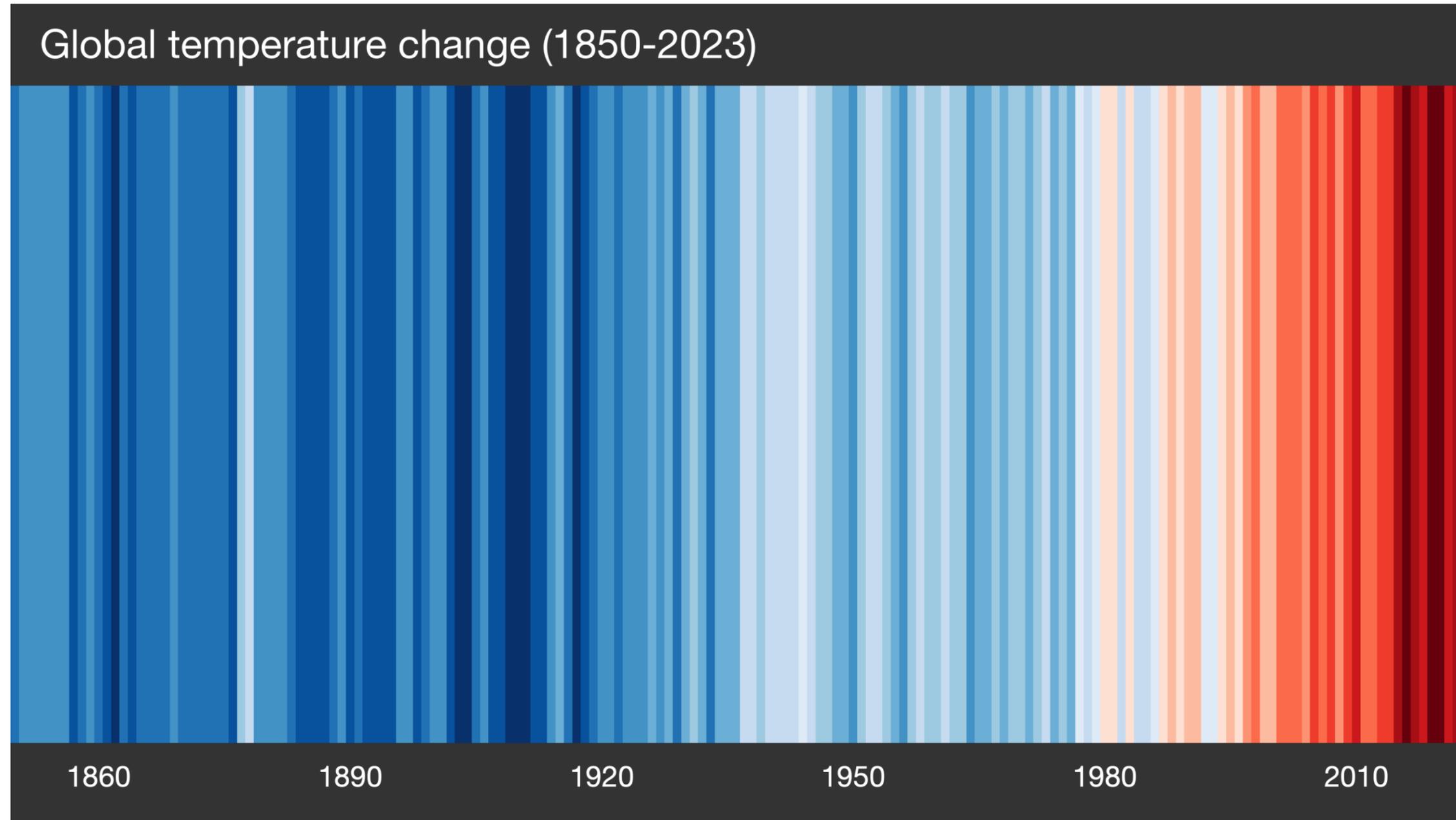


### 3. Status of Irish biodiversity



<https://biodiversitystripes.info/global/birds>  
biodiversitystripes.info and LPI 2024, Living Planet Index database.  
([www.livingplanetindex.org](http://www.livingplanetindex.org))

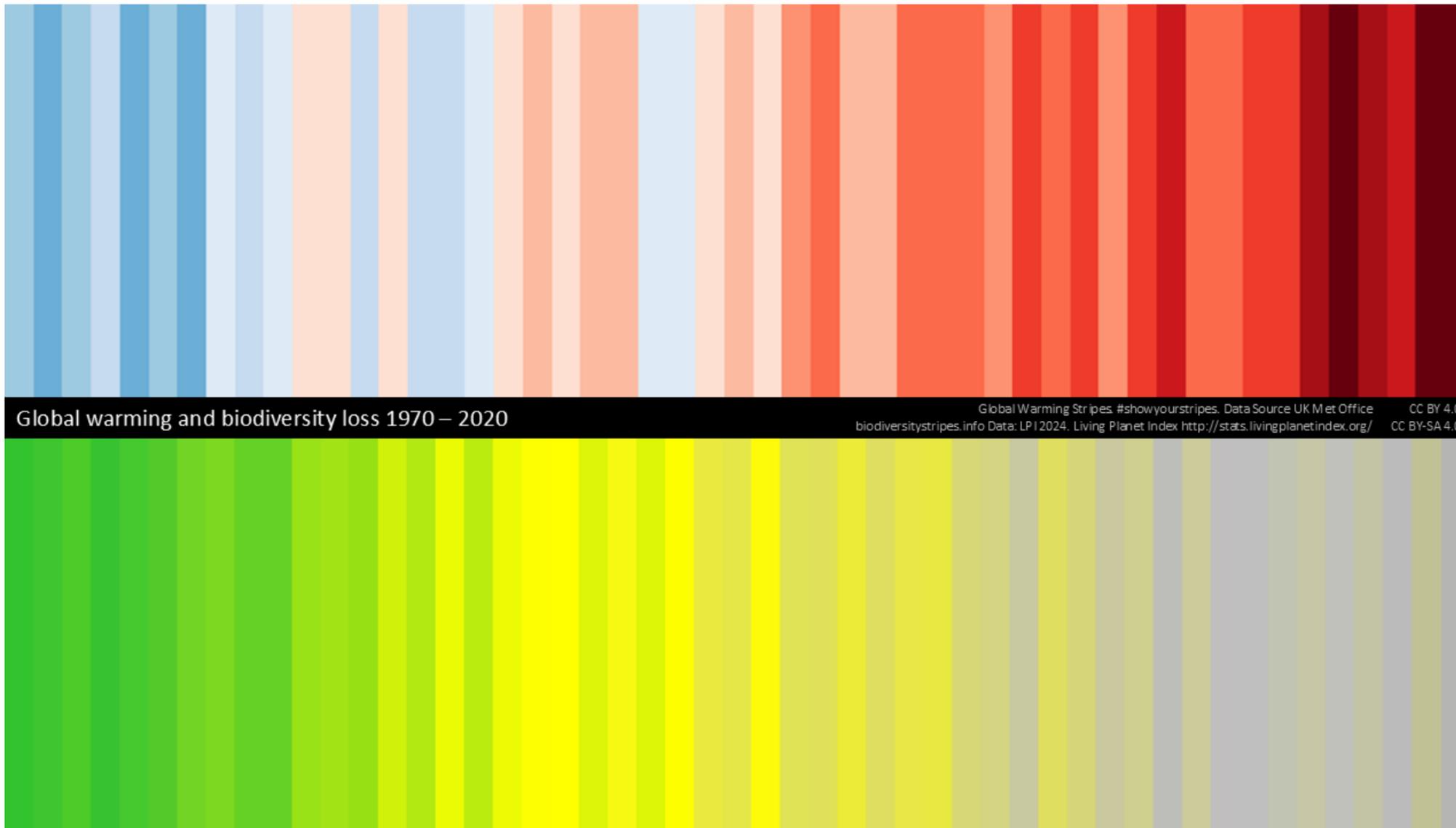
# Global temperature change



<https://showyourstripes.info/>

Graphics and lead scientist: Ed Hawkins, National Centre for Atmospheric Science, University of Reading., National Centre for Atmospheric Science, UoR. Data: Berkeley Earth & ERA5-Land, NOAA, UK Met Office, MeteoSwiss, DWD, SMHI, UoR & ZAMG

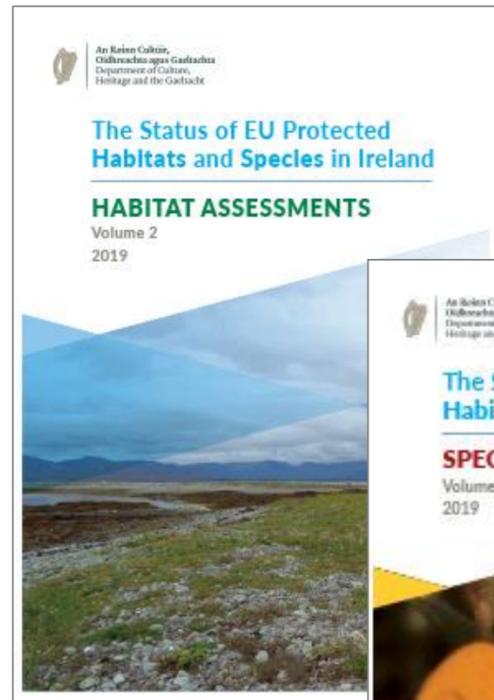
# Climate and biodiversity are interlinked



*“Climate and biodiversity are intimately related and need not be tackled in isolation”*

<https://biodiversitystripes.info/globalbiowarming>  
biodiversitystripes.info and LPI 2024, Living Planet  
Index database. ([www.livingplanetindex.org](http://www.livingplanetindex.org))

# Biodiversity in Ireland



Of the 31,500 species  
10% assessed for conservation status  
1/5 at risk of extinction

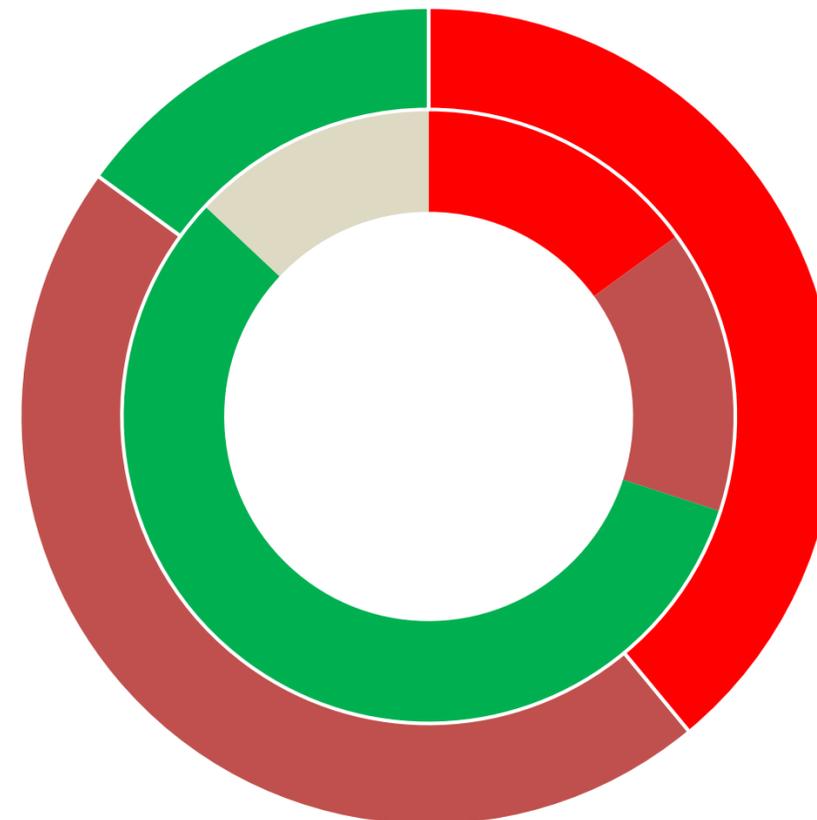
## SPECIES

15% Bad

15% Inadequate

57% Favourable

13% unknown



■ bad ■ inadequate ■ favourable ■ unknown

## HABITATS

39% Bad

46% Inadequate

15% Favourable

# Biodiversity in Ireland - 1



- 56% Irish native plant species have declined in range and/or abundance
- Native grassland plants are those that have suffered the most



**BirdWatchIreland** Birds of Conservation Concern  
*protecting birds and biodiversity* in Ireland 4: 2020–2026

- 63% Irish bird species are in decline
- Farmland birds like Curlew, Lapwing, Snipe, Kestrel, Skylark are suffering most rapid declines

# International and national plans to restore biodiversity on farmland

## EU Nature Restoration Law

- Prepare long term national restoration plan up to 2050
- Evidence-based
- Integrated framework (nature, climate and food security)

## Area based restoration measures

- 20% of land by 2030
- All ecosystems in need of restoration by 2050
- Articles 4-13 outline restoration targets
- Restoration of agricultural land (Article 11)

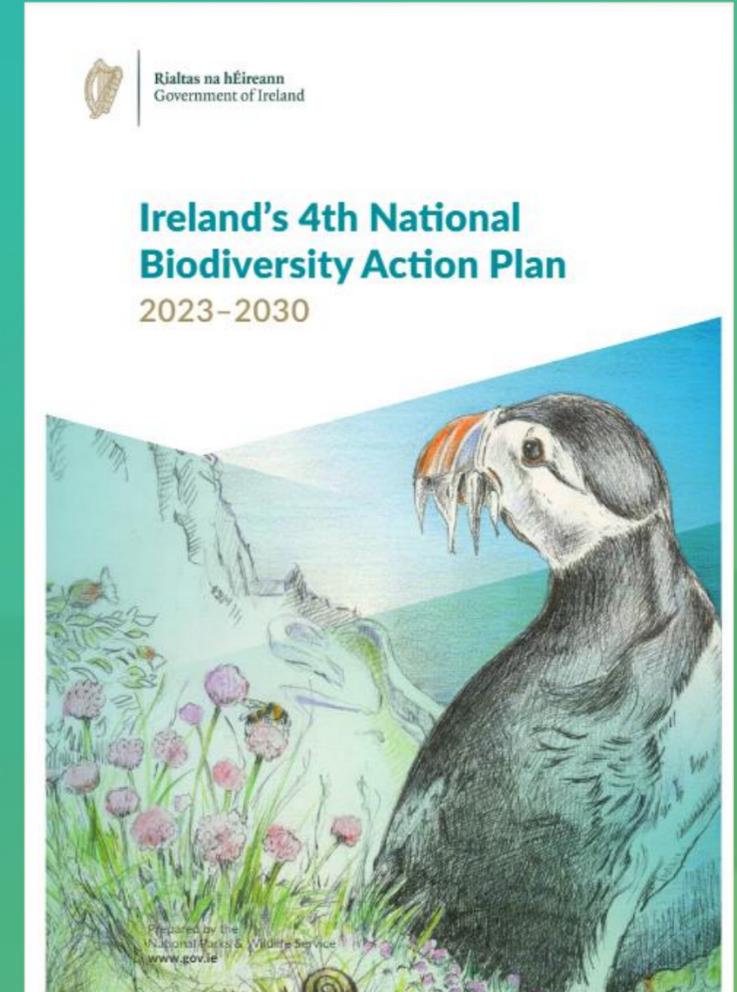
# Plans to restore biodiversity



GBF HOME // TARGET 10

## Target 10

Enhance Biodiversity and Sustainability in Agriculture, Aquaculture, Fisheries, and Forestry



COP16 was the first major biodiversity meeting since the 'Global Biodiversity Framework' was agreed in Montreal in 2022 where it was agreed to conserve 30% of the planet's lands, waters and seas by 2030 and restore 30% of all degraded ecosystems.

# Farmers are working to protect biodiversity

## An Irish example

- Andy Bleasdale (S4. 1)
- Barry Quinn Presentation Nov 2024
- Catriona Foley (S2. 3)
- Eileen McCloskey (S4. 3)
- Emma Dillon (S2. 1)
- james Moran- ATU 2024 final
- John Muldowney (S3. 1)
- Padraig Cronin (S3. 2)



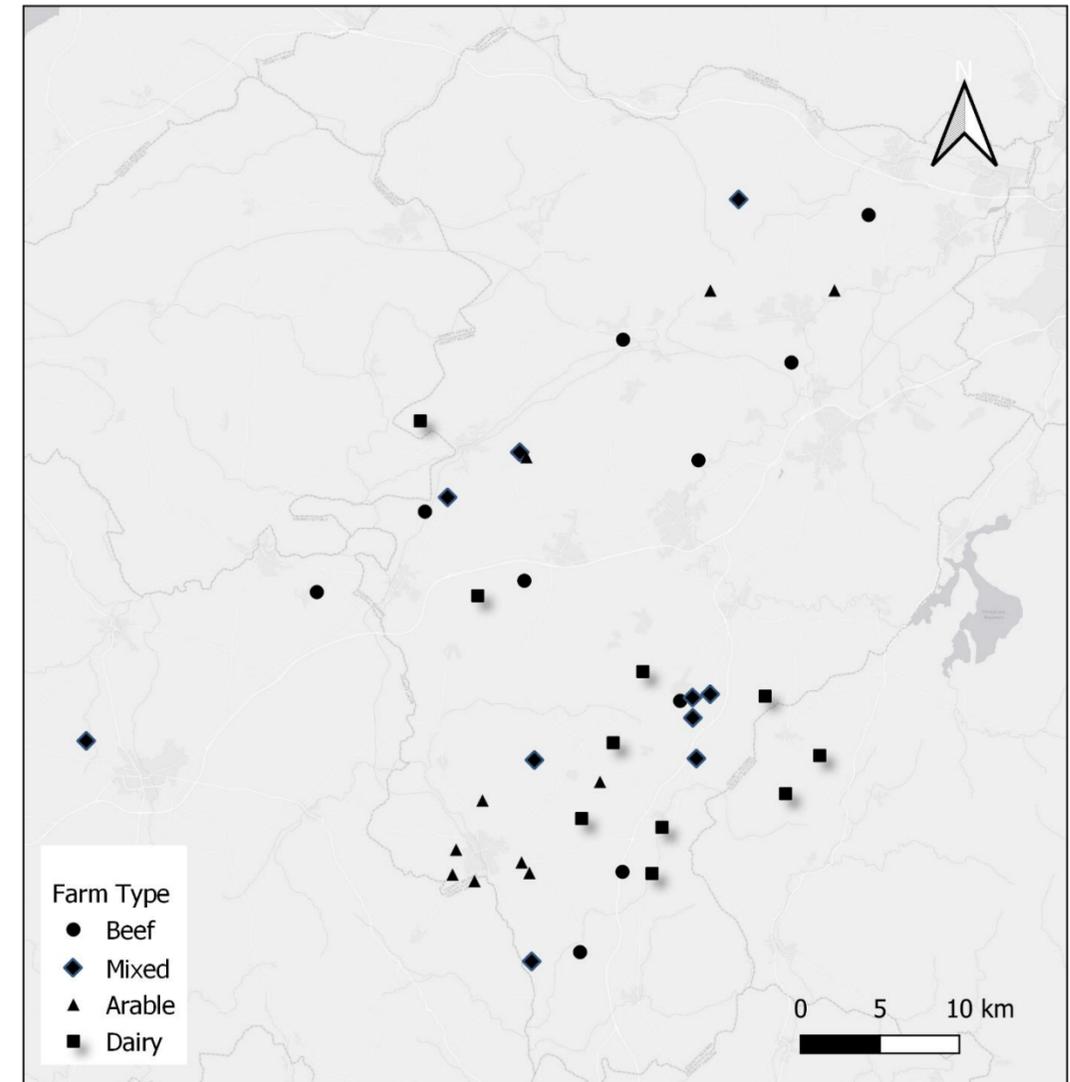
Photo credit Colm Flynn



# Protecting Farmland Pollinators EIP



- 40 farms
- Results based payments
  - Pollinator Scorecard
  - Pollinator points = €€€
- Can we identify actions that work for farmers
- Do the scores accurately reflect the pollinators on the farm



Bumblebees



Hoverflies

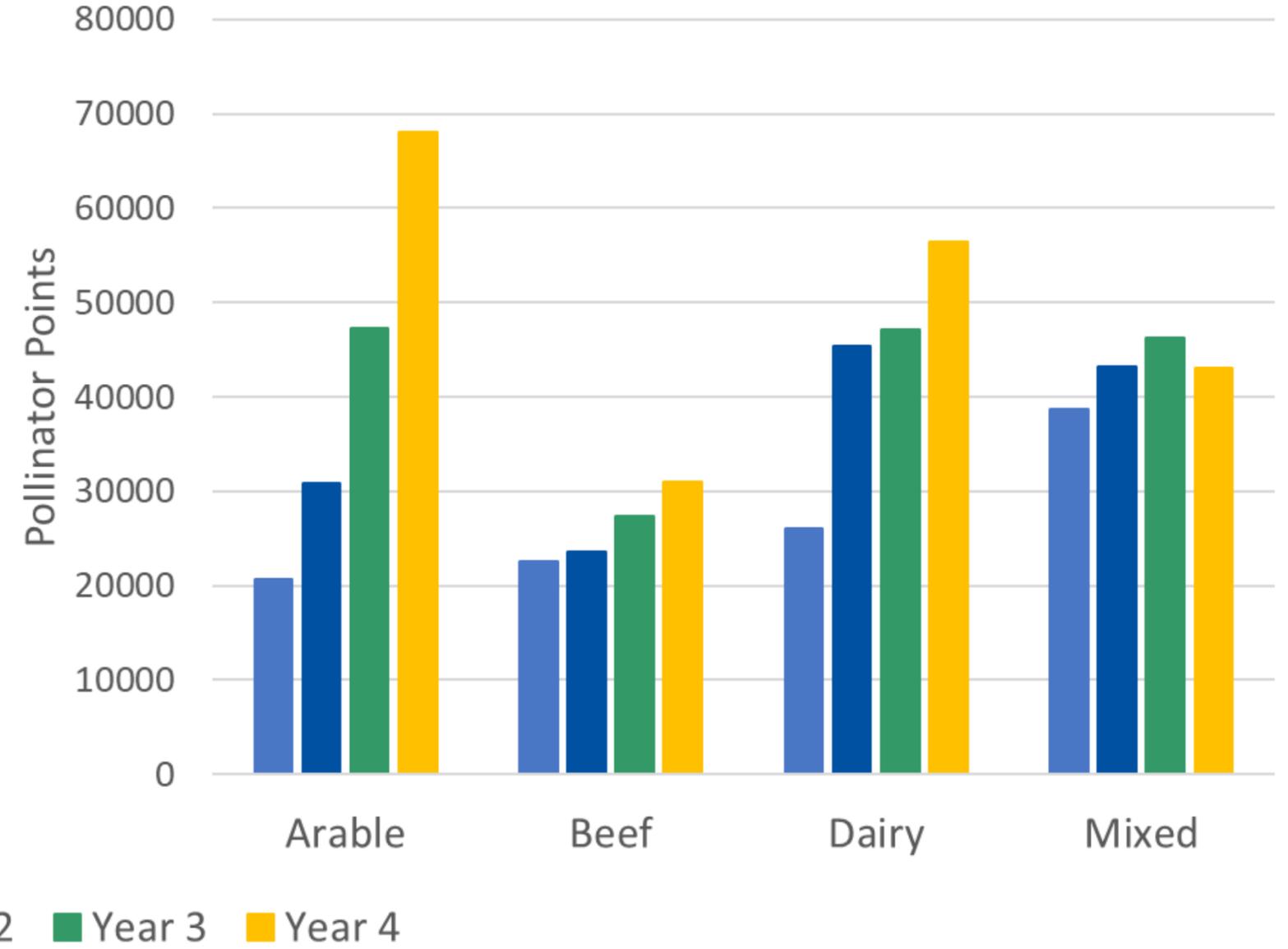
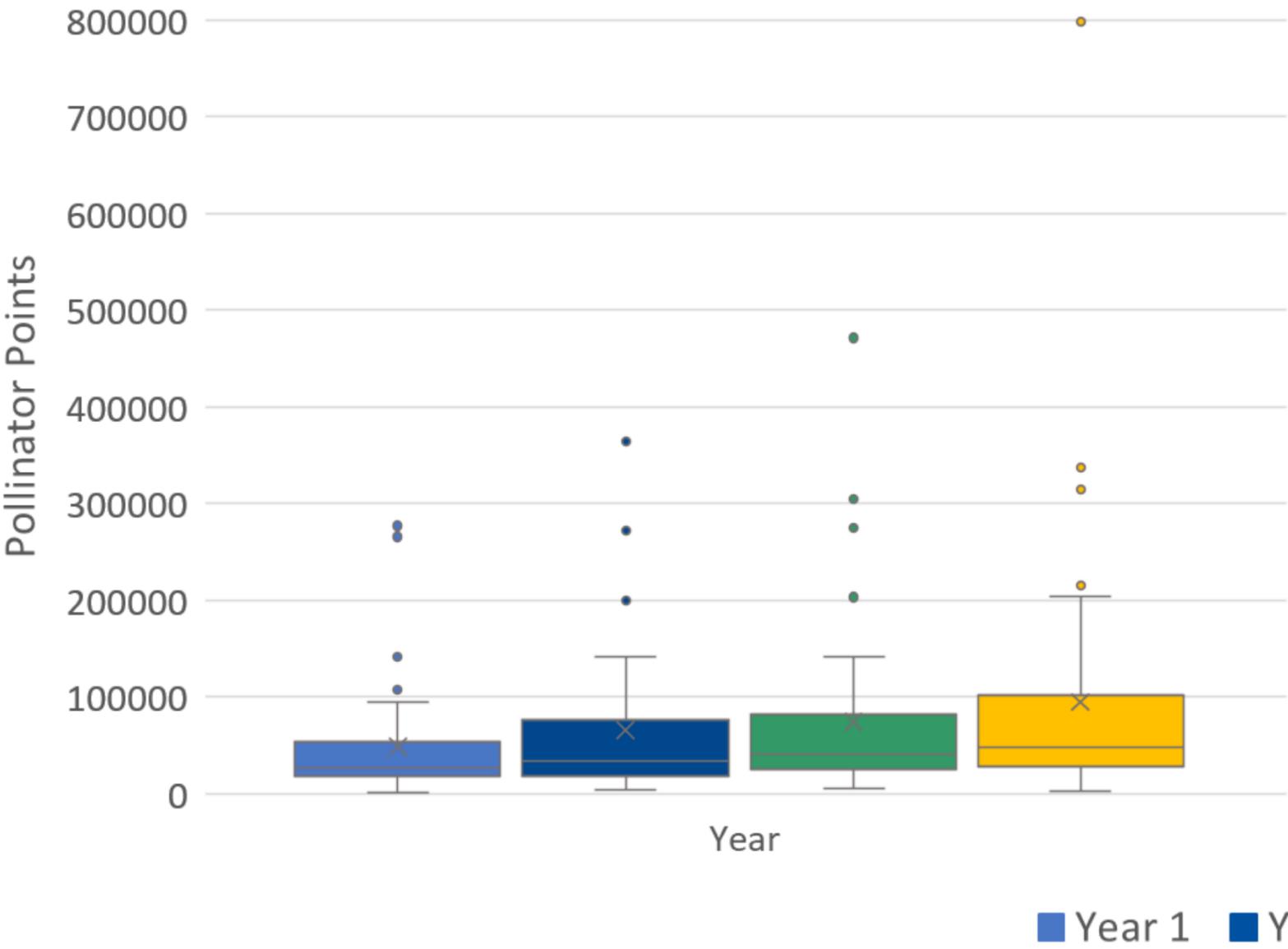


Solitary Bees

Kavanagh *et al.* 2023



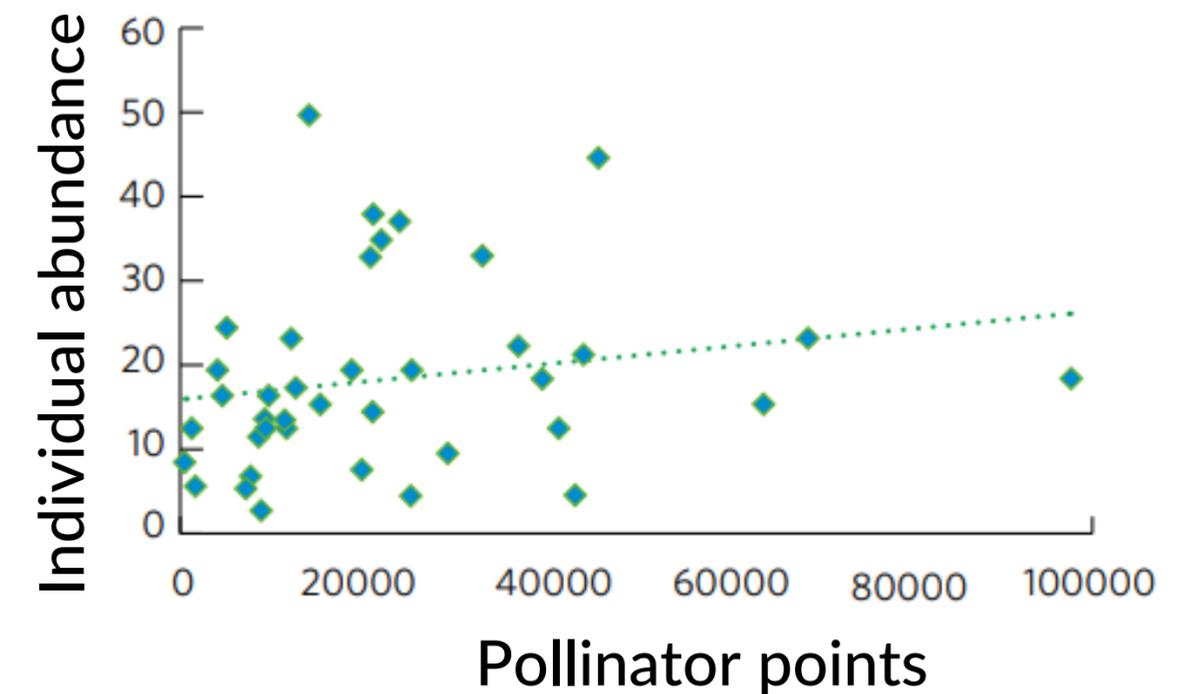
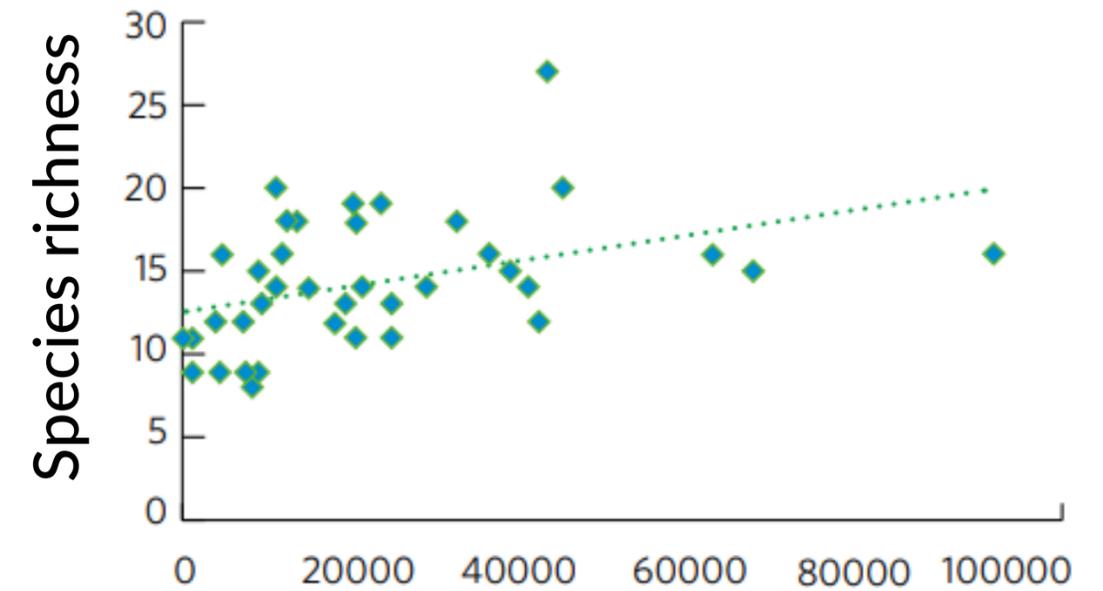
# Increased Pollinator Points



# Evidence-based Pollinator Scorecard



Kavanagh et al. in prep



# Summary

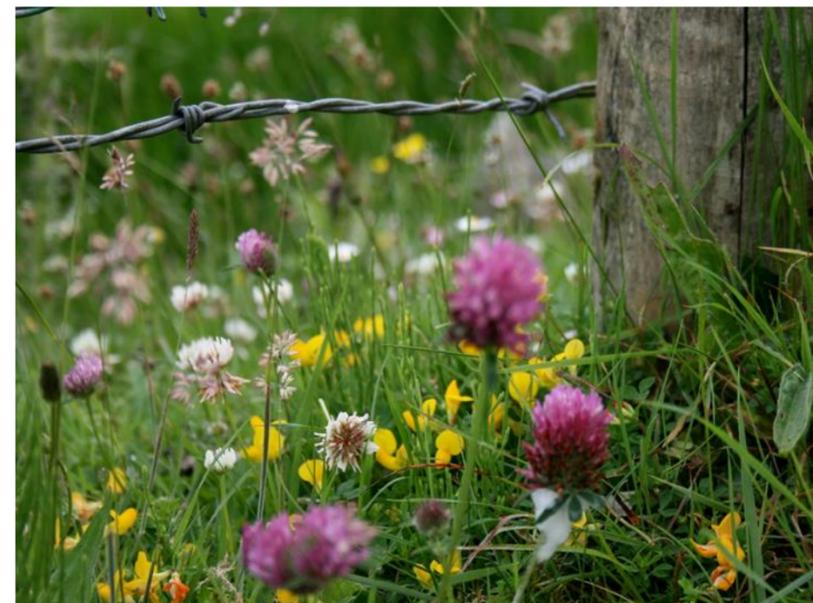
- Biodiversity is an important national resource and needs protection
- Biodiversity has multiple benefits for farmers
- Farmland biodiversity has multiple benefits for society
- Farmers are taking action to help biodiversity
- Transfer and share knowledge on what good looks like



Flowering hedgerows



Flowering permanent pastures



Reduce pesticides

