

Biodiversity loss – some of the evidence

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Presentation to Citizens' Assembly on Biodiversity Loss

HISTORY OF THE CONVENTION

CONVENTION

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MECHANISMS FOR IMPLEMENTATION

CONVENTION // HISTORY

TUESDAY // 9.20.2022



History of the Convention

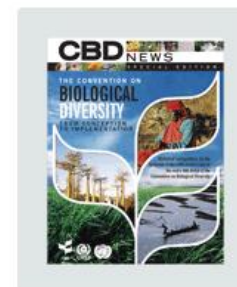
Introduction

The Earth's biological resources are vital to humanity's economic and social development. As a result, there is a growing recognition that biological diversity is a global asset of tremendous value to present and future generations. At the same time, the threat to species and ecosystems has never been so great as it is today. Species extinction caused by human activities continues at an alarming rate.

In response, the United Nations Environment Programme (UNEP) convened the Ad Hoc Working Group of Experts on Biological Diversity in November 1988 to explore the need for an international convention on biological diversity. Soon after, in May 1989, it established the Ad Hoc Working Group of Technical and Legal Experts to prepare an international legal instrument for the conservation and sustainable use of biological diversity. The experts were to take into account "the need to share costs and benefits between developed and developing countries" as well as "ways and means to support innovation by local people".

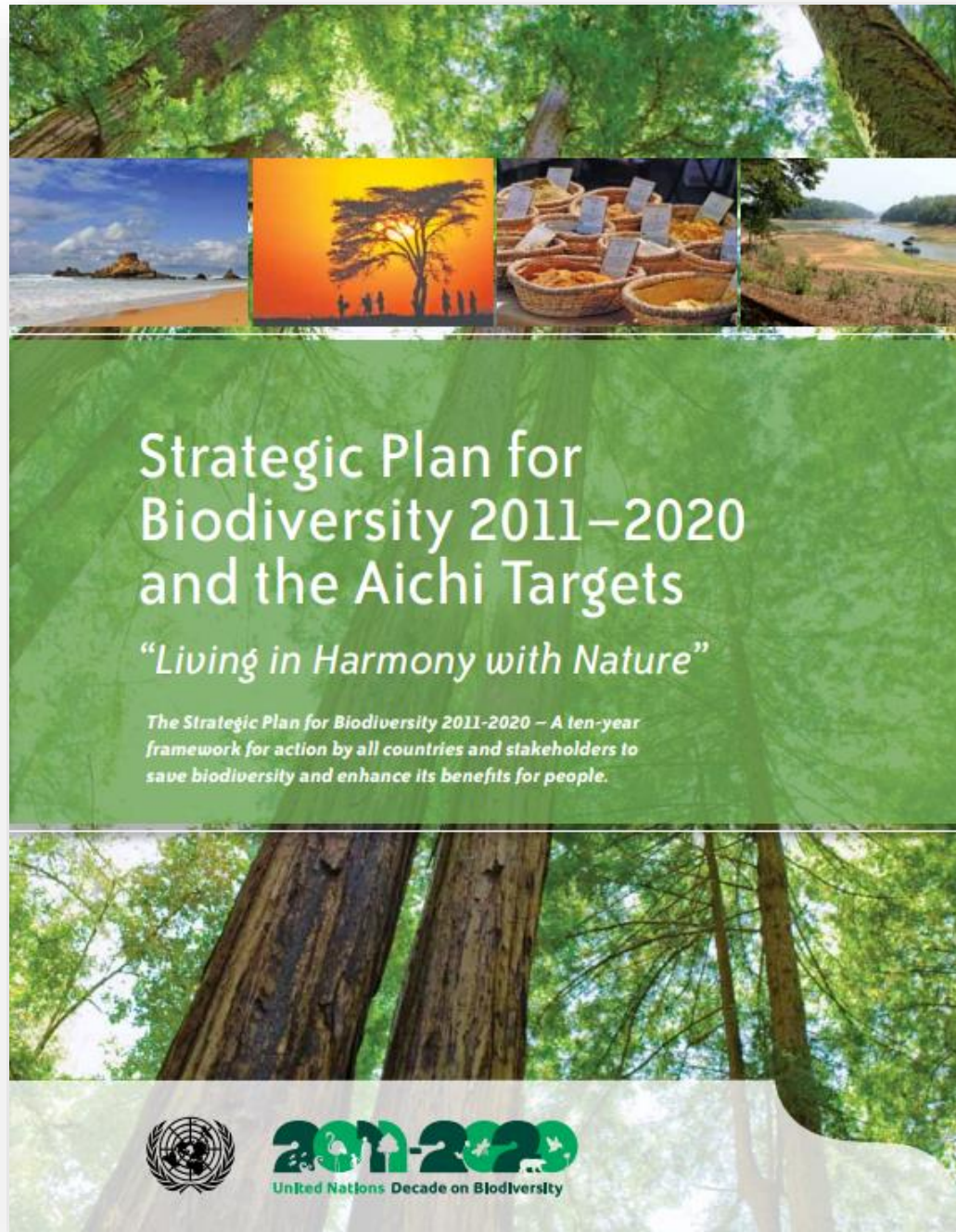
By February 1991, the Ad Hoc Working Group had become known as the Intergovernmental Negotiating Committee. Its work culminated on 22 May 1992 with the Nairobi Conference for the Adoption of the Agreed Text of the Convention on Biological Diversity.

The Convention was opened for signature on 5 June 1992 at the United Nations Conference on Environment and Development (the Rio "Earth Summit"). It remained open for signature until 4 June 1993, by which time it had received 168 signatures. The Convention entered into force on 29 December 1993, which was 90 days from the 30th ratification. The first session of the Conference of the Parties (COP) was held in 1994 in Nagoya, Japan.



CBD Graphic Timeline






“This Plan provided an overarching framework on biodiversity, not only for the biodiversity-related conventions, but for the entire United Nations system and all other partners engaged in biodiversity management and policy development.”


Strategic Plan for Biodiversity 2011-2020 and the Aichi Targets


The Aichi Biodiversity Targets

Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society


 By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.


 By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.


 By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.


 By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.


Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use


 By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.

 By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.


 By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

 By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.


 By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.


 By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

Strategic Goal C: Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity


 By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems


of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes.


 By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

 By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.


Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services.


 By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.


 By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.


 By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.

Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building

 By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.

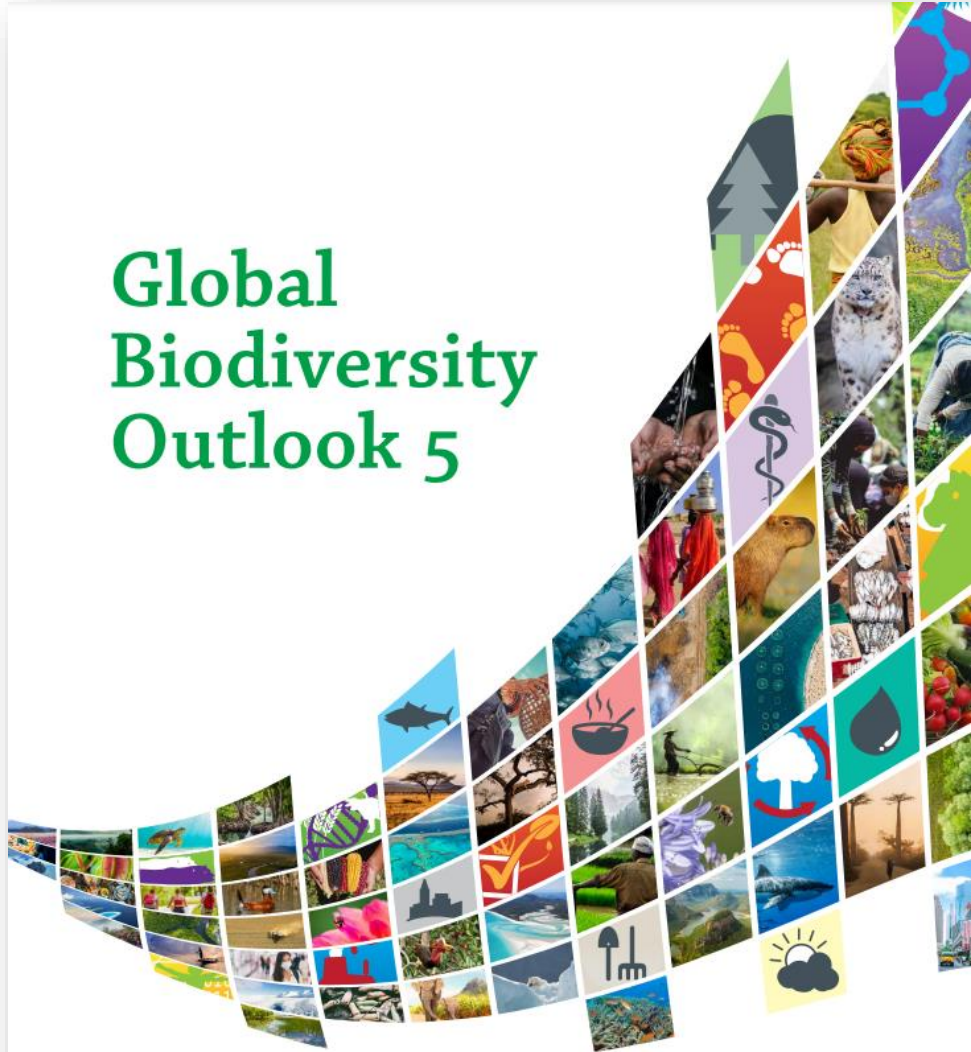
 By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.

 By 2020, knowledge, the science base and technologies relating to biodiversity, its values functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.

 By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan 2011-2020 from all sources and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resources needs assessments to be developed and reported by Parties.

Please feel free to use the Aichi Biodiversity Targets icons in your own materials. More details at www.cbd.int/sp

Global Biodiversity Outlook 5



“Humanity stands at a crossroads with regard to the legacy it leaves to future generations. Biodiversity is declining at an unprecedented rate, and the pressures driving this decline are intensifying. None of the Aichi Biodiversity Targets will be fully met, in turn threatening the achievement of the Sustainable Development Goals and undermining efforts to address climate change.”

Secretariat of the Convention on Biological Diversity
(2020) Global Biodiversity Outlook 5. Montreal.



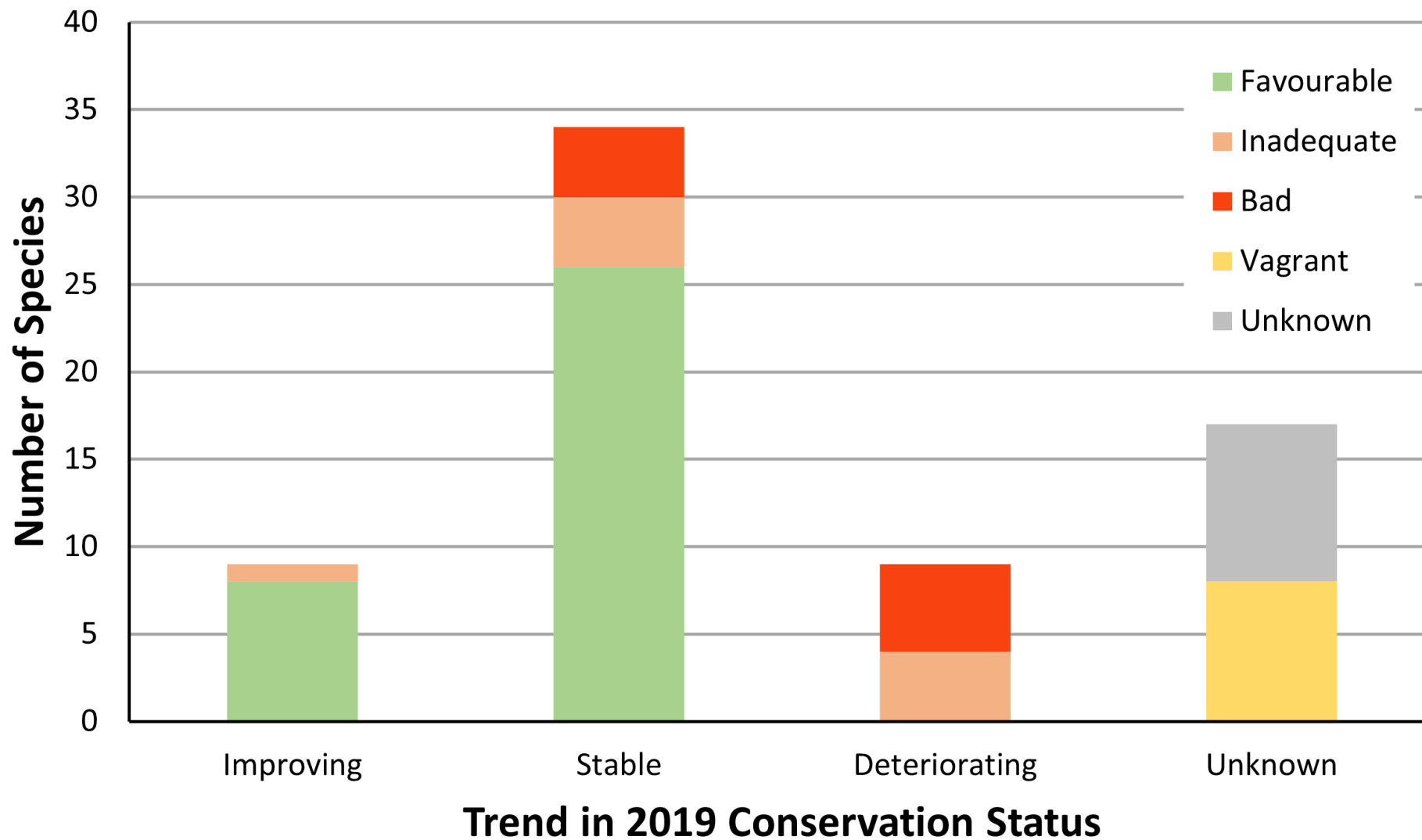
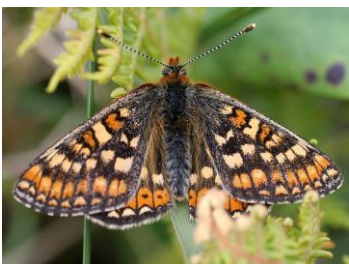
UN
environment
programme



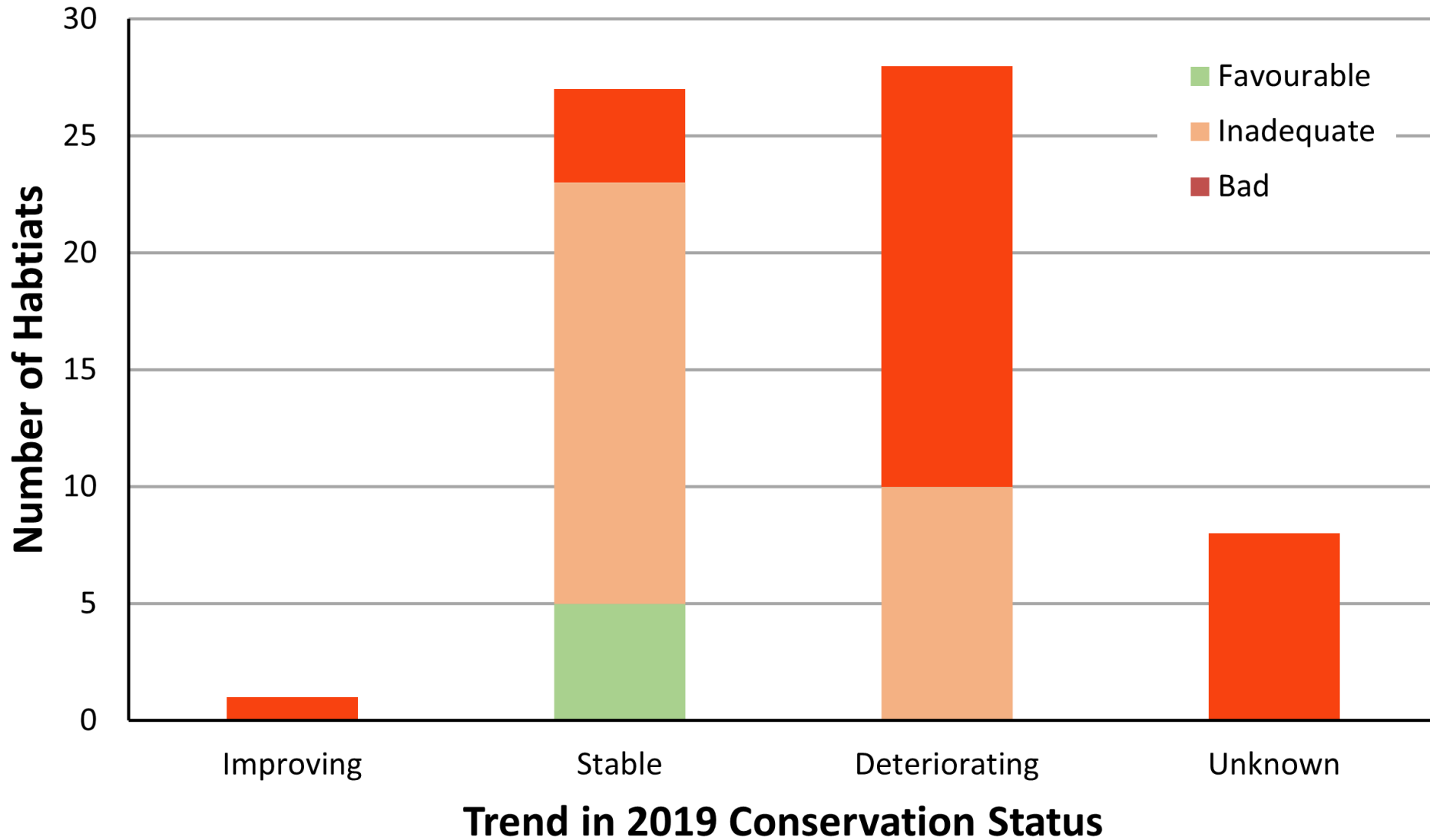
Habitats and species afforded protection under EU Habitats Directive



Species protected under the EU Habitats Directive



Habitats protected under the EU Habitats Directive



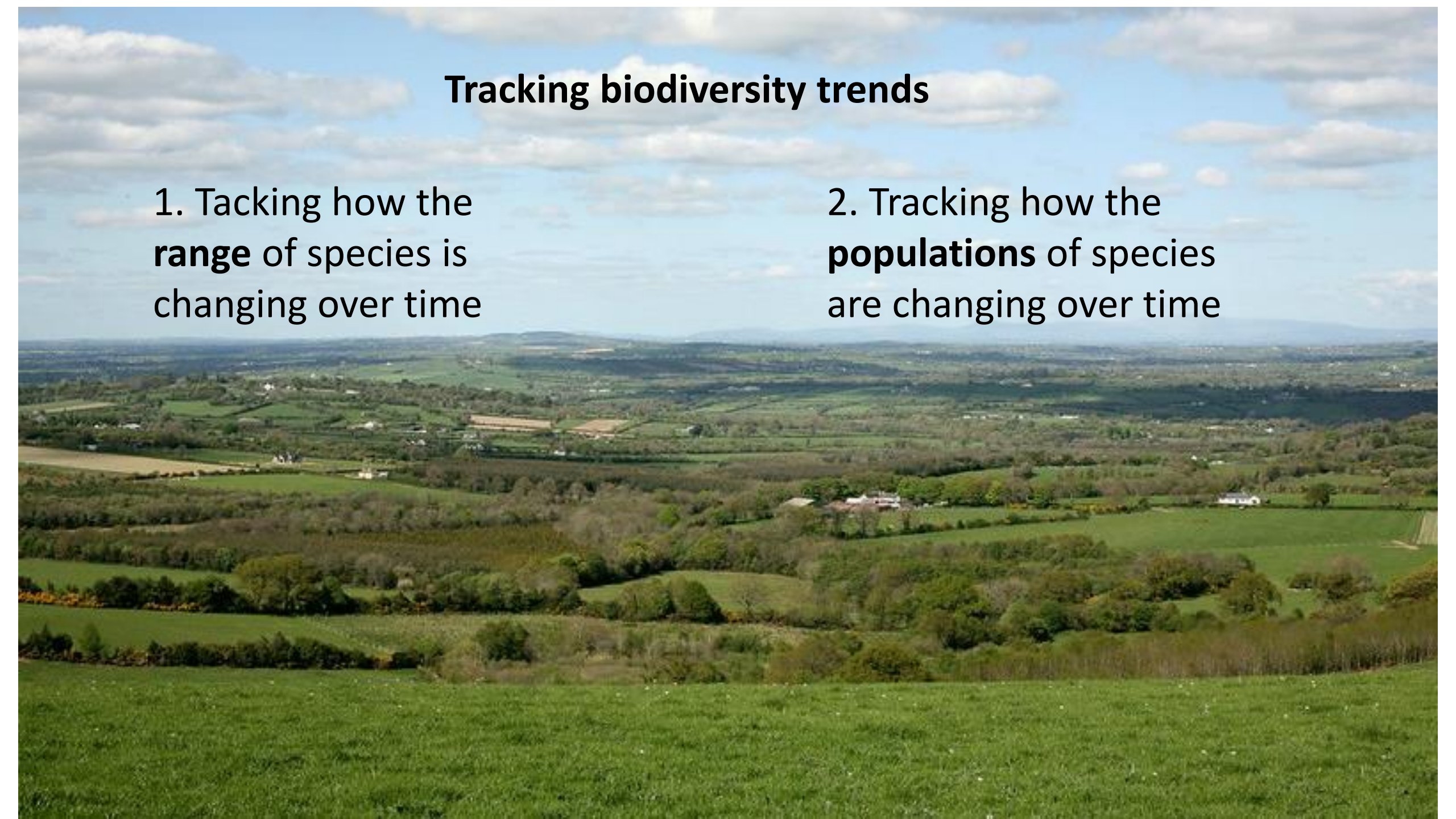
“I am deeply concerned by the ongoing biodiversity losses being reported at a national and global level. The living fabric on which we all depend is being eroded. It is time for us all to step up to enable the transformative change required to reverse these trends.”

Josepha Madigan, Minister for Culture, Heritage and the Gaeltacht

Tracking biodiversity trends

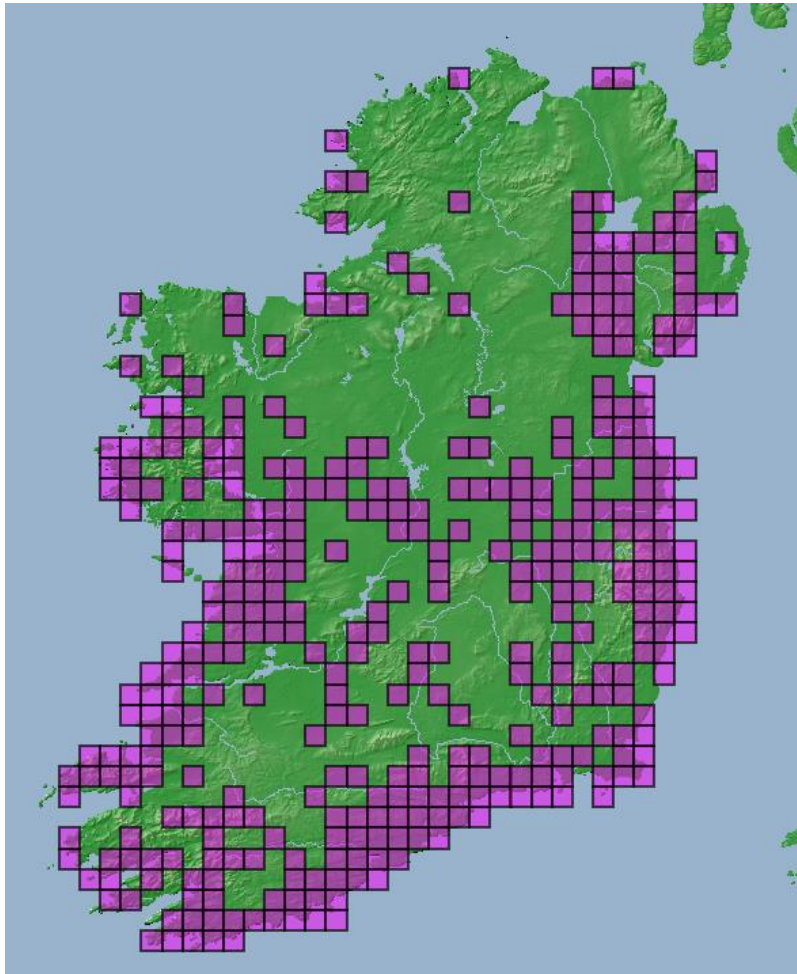
1. Tracking how the **range** of species is changing over time

2. Tracking how the **populations** of species are changing over time

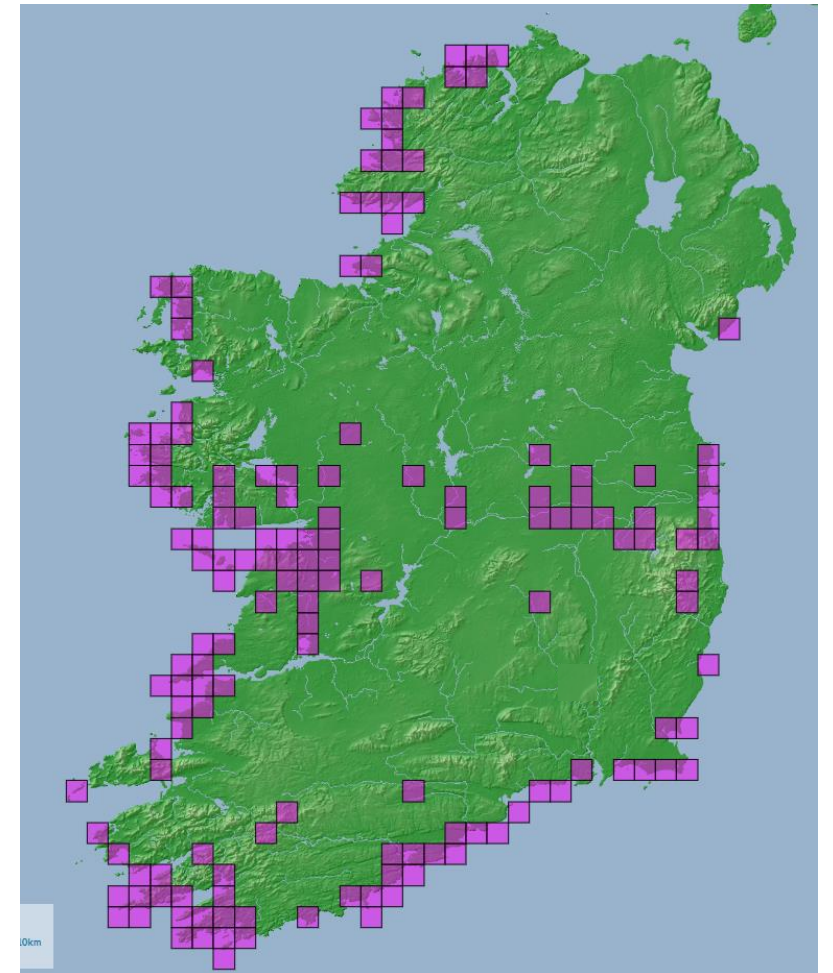


Decline of the Wall (*Lasiommata megera*) in Ireland

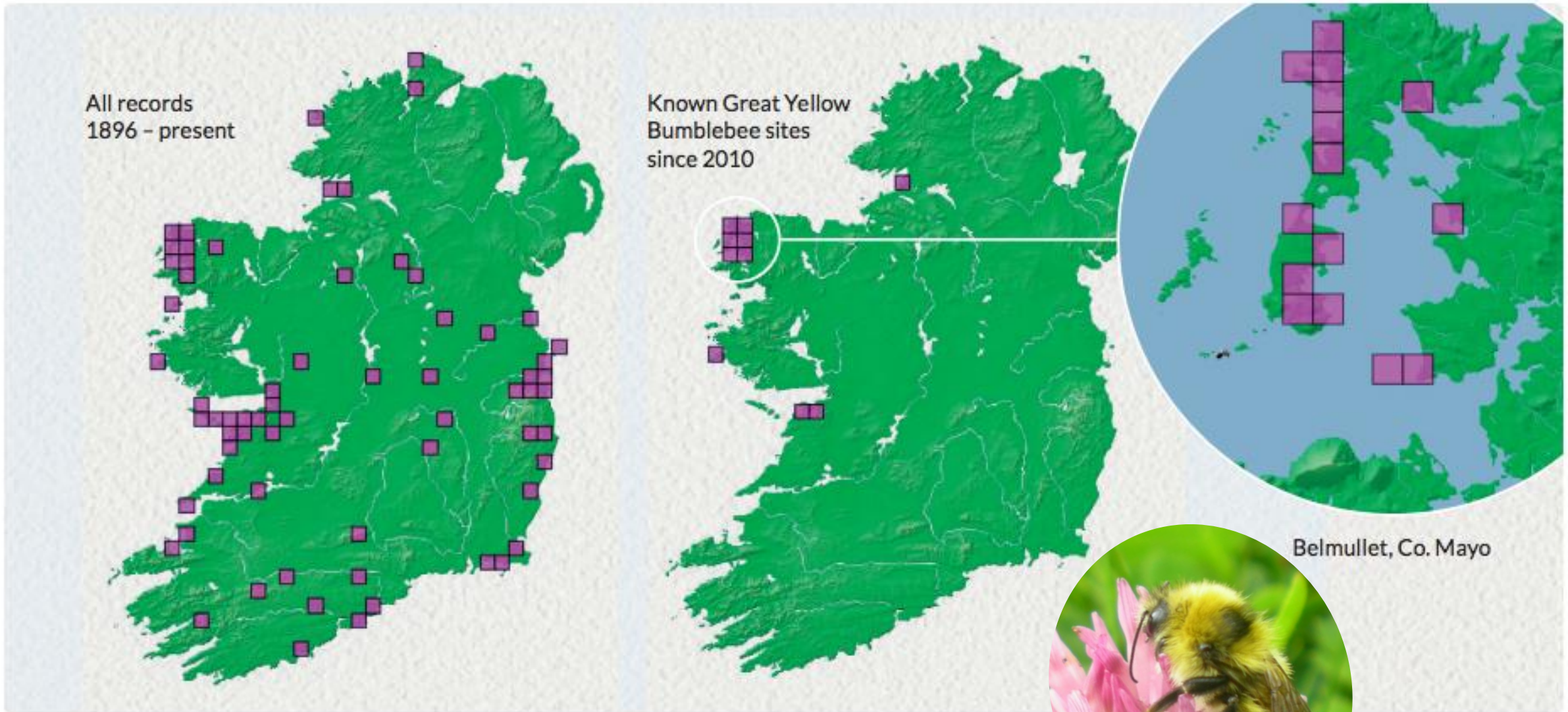
Distribution pre 2015



Distribution 2015 - 2021

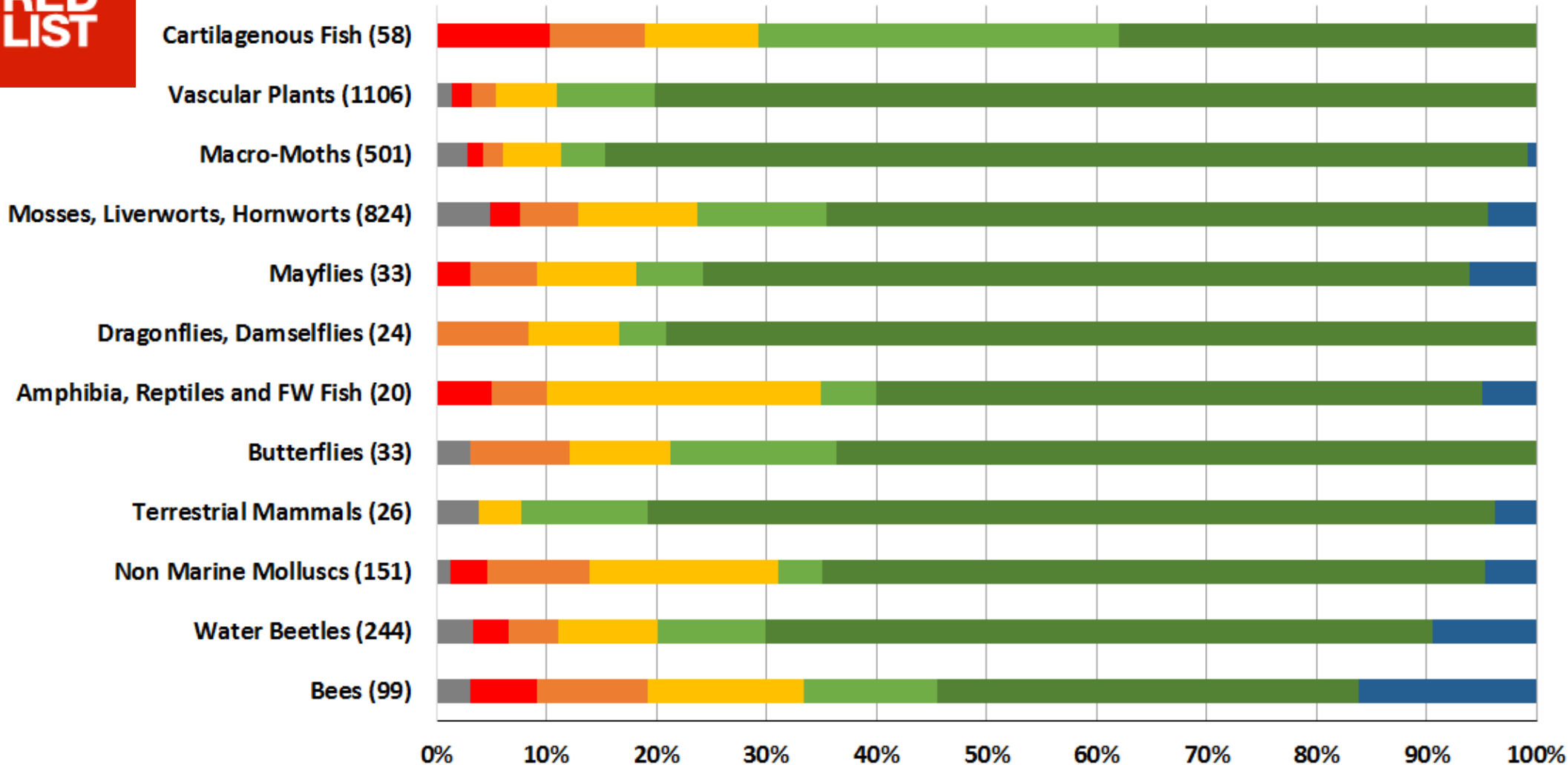


Source: National Biodiversity Data Centre



Great Yellow Bumblebee (*Bombus distinguendus*)

Conservation assessments (Red Lists)



Regionally Extinct
 Critically Endangered
 Endangered
 Vulnerable
 Near Threatened
 Least Concern
 Data Deficient

Source: NPWS

Population declines evident from regular monitoring: Common & Widespread Breeding Birds

3.42 Grey Wagtail *Motacilla cinerea* Glasóg liath

Resident

Breeding population:	Population estimate (2011-2016):	50,768
	min – max population estimate:	36,949 – 66,035
	10-year trend (2006-2016):	-46.5
	18-year trend (1998-2016):	-67.6
Breeding distribution change (%):	10-year trend (2006-2016):	-39.0
	25-year trend (1991-2016):	-42.2
	44-year trend (1972-2016):	-48.0

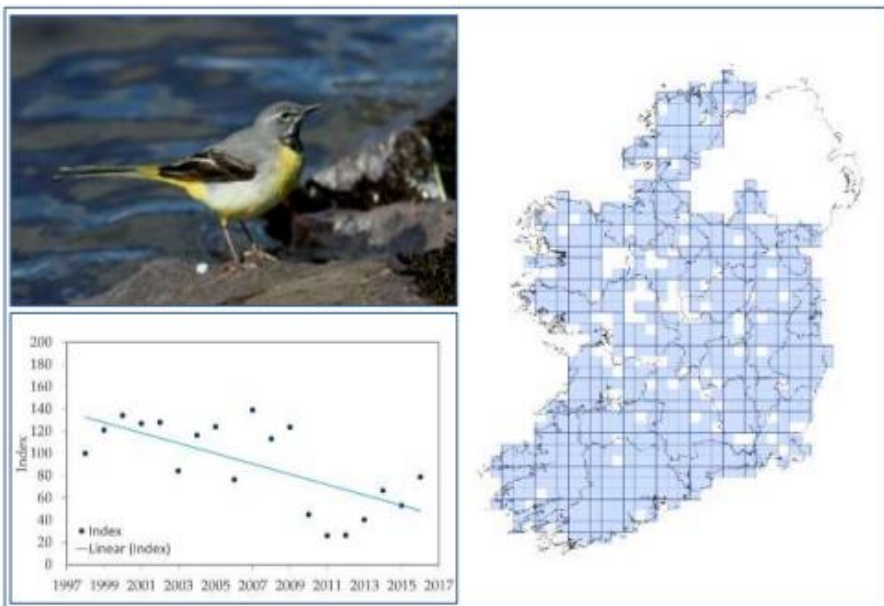


Figure 43 Distribution map and graphed population 18-year trend for Grey Wagtail. The breeding distribution map is based on the Bird Atlas (2007-2011) (Balmer *et al.*, 2013). The population trend uses data from CBS 1998-2016 (Photo: Dick Coombes).

3.5 Stock Dove *Columba oenas* Colm gorm

Resident

Breeding population:	Population estimate (2011-2016):	27,486
	min – max population estimate:	14,934 – 43,039
	10-year trend (2006-2016):	-38.6
	18-year trend (1998-2016):	-58.4
Breeding distribution change (%):	10-year trend (2006-2016):	-30.0
	25-year trend (1991-2016):	-45.0
	44-year trend (1972-2016):	-61.3

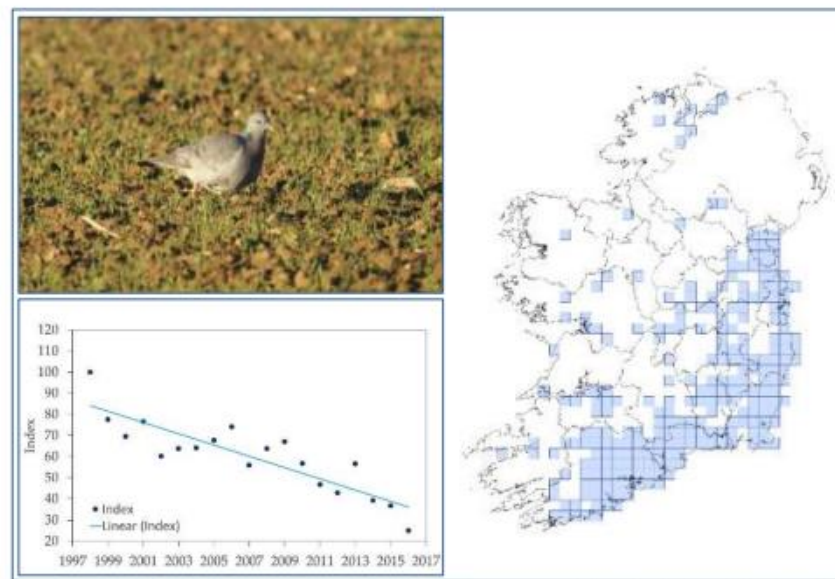
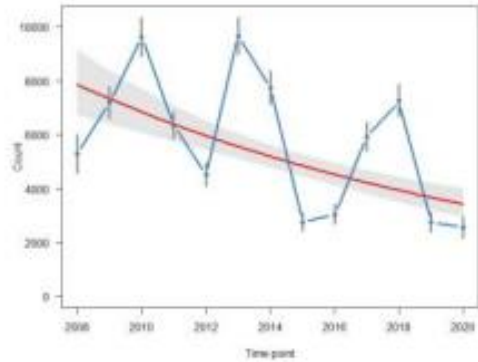
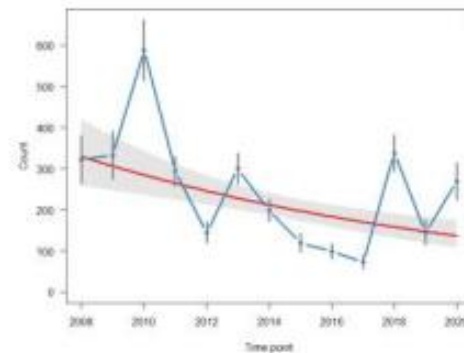


Figure 6 Distribution map and graphed population 18-year trend for Stock Dove. The breeding distribution map is based on the Bird Atlas (2007-2011) (Balmer *et al.*, 2013). The population trend uses data from CBS 1998-2016 (Photo: Dick Coombes).

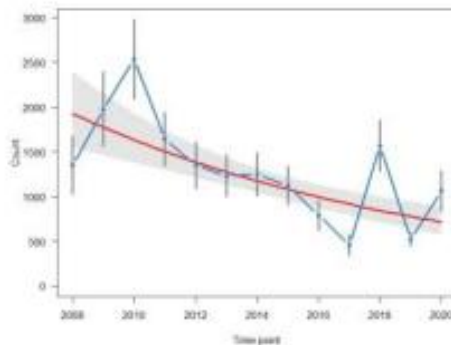
Population declines evident from regular monitoring: Common & Widespread Butterflies



Green-veined White Pieris napi
 Ave. sites per year in monitoring scheme: >50
 Change 2008-2020: -48%
 Generations per year: 2
 Overwinters as: Pupa
 Conservation status (2010): Least Concern



Small Copper Lycaena phlaeas
 Ave. sites per year in monitoring scheme: >50
 Change 2008-2020: -43%
 Generations per year: 2
 Overwinters as: Larva
 Conservation status (2010): Least Concern



Small Heath Coenonympha pamphilus
 Ave. sites per year in monitoring scheme: >50
 Change 2008-2020: -51%
 Generations per year: 2
 Overwinters as: Larva
 Conservation status (2010): Near Threatened



Birds of Conservation Concern in Ireland 2020-2026

Red-list species (high conservation concern)

Breeding

Quail
Grey Partridge
Red Grouse
Black-necked Grebe
Stock Dove
Nightjar
Swift
Corncrake
Leach's Storm-petrel
Woodcock
Red-necked Phalarope
Kittiwake
Puffin
Razorbill
Barn Owl
Golden Eagle
White-tailed Eagle
Red Kite
Kestrel
Wood Warbler

Breeding continued

Ring Ouzel
Common Redstart
Whinchat
Meadow Pipit
Grey Wagtail
Twite
Yellowhammer

Passage

Turtle Dove
Balearic Shearwater
Curlew Sandpiper

Wintering

Bewick's Swan
Long-tailed Duck
Velvet Scoter
Goldeneye
Scaup
Slavonian Grebe

Wintering continued

Grey Plover
Bar-tailed Godwit
Black-tailed Godwit
Knot
Purple Sandpiper
Snowy Owl
Redwing

Breeding and Wintering

Eider
Common Scoter
Pochard
Shoveler
Oystercatcher
Golden Plover
Lapwing
Curlew
Dunlin
Snipe
Redshank

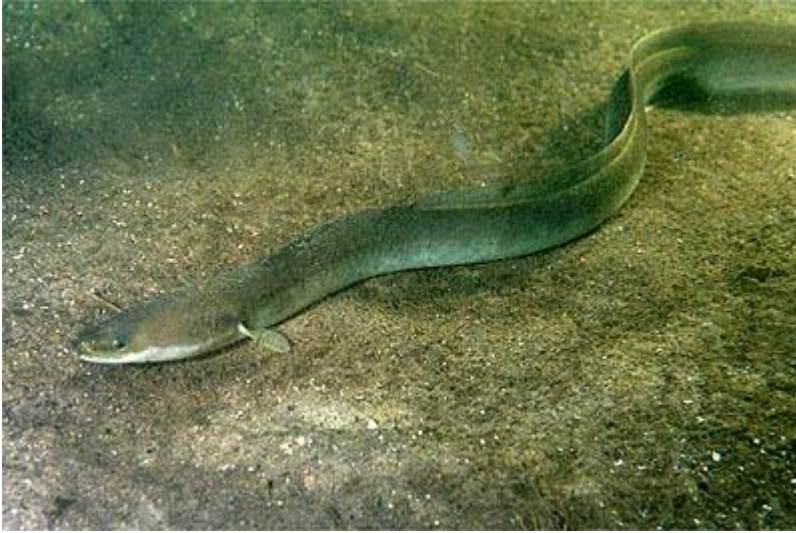


“There is no doubt that having 54 (25.6%) of Ireland’s regularly occurring bird species now on the Red List is alarming, with some species having shown dramatic declines and losses on this island.”

Birds of Conservation Concern in Ireland 4: 2020-2026. *Irish Birds* **43**:1-22 (2021)

Examples of species we are at risk of losing

European Eel



Freshwater Pearl Mussel



Curlew



Great Yellow Bumblebee



Atlantic Salmon

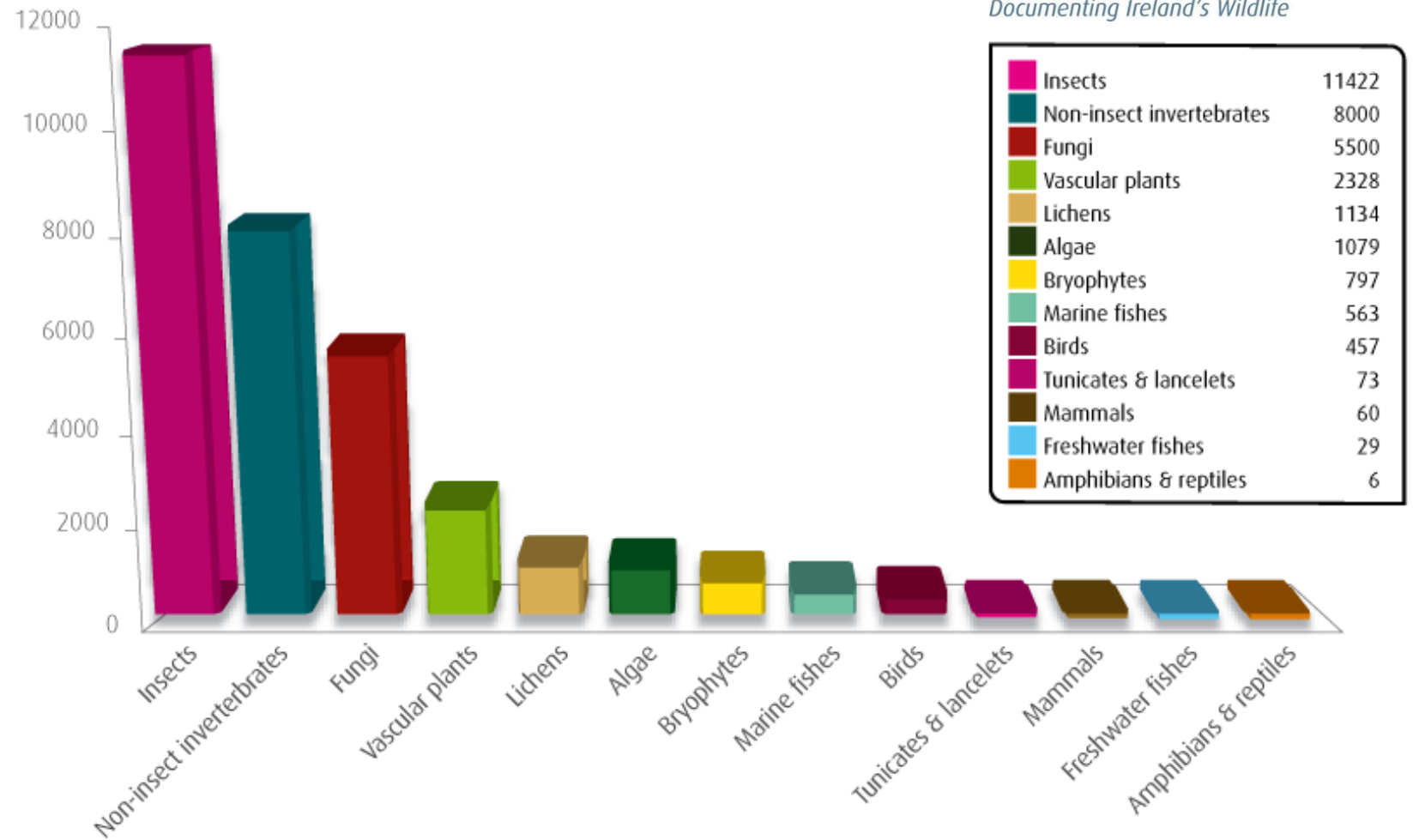


Twite



Poor understanding of changes in ecosystem services

Composition of Ireland's biodiversity

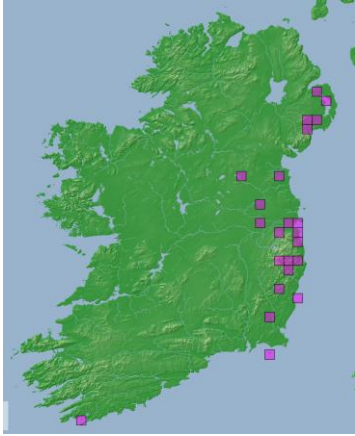


Proportion of species known from Ireland divided into major groups

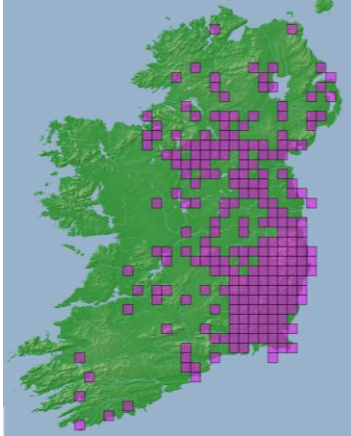
The populations & range of some species are increasing, often as result of climate change or as an invasive species

Great Spotted Woodpecker

2010

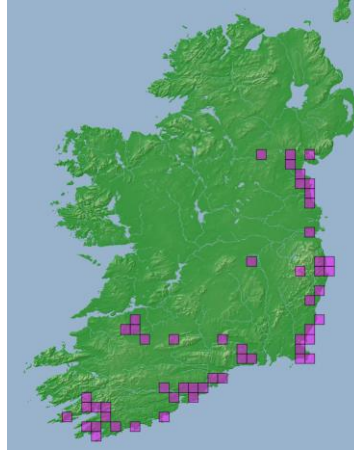


2021

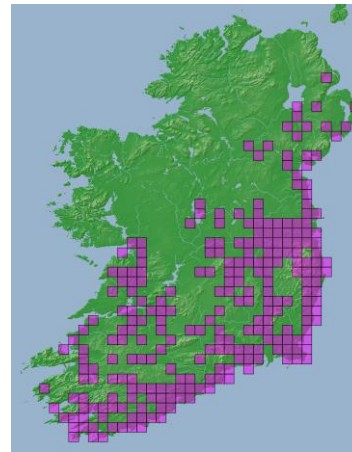


Emperor Dragonfly

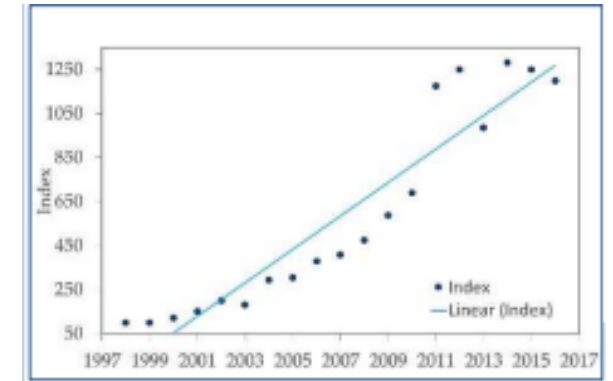
2010



2021

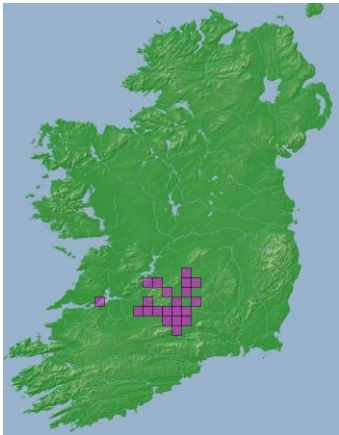


Blackcap

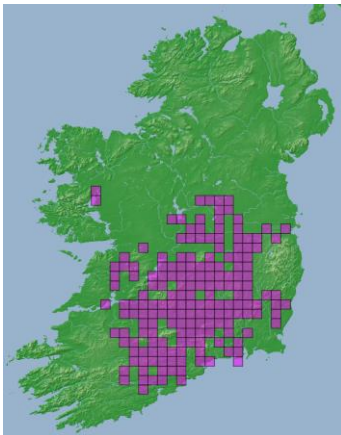


Greater White-toothed Shrew

2010



2021

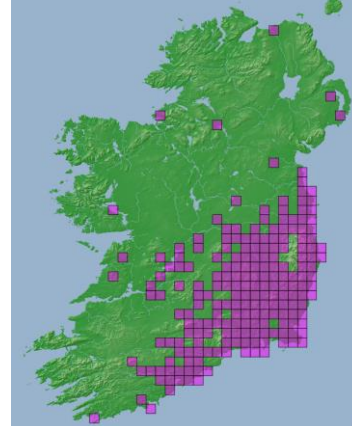


Comma

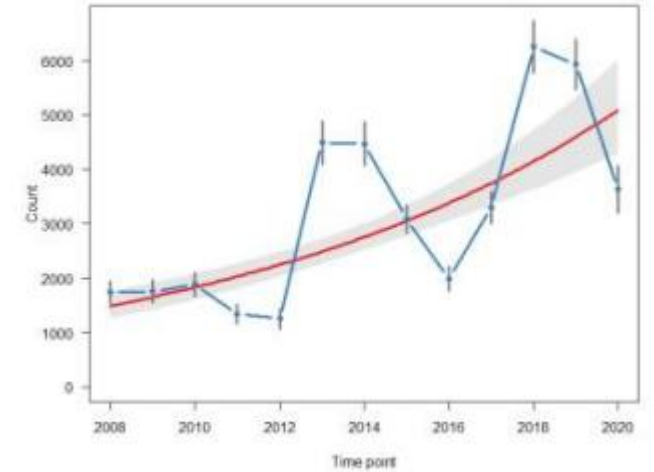
2010



2021



Peacock



Declining population but change in behaviour

Bust and Boom – Herring Gull 90% declines in 30 years in Ireland!

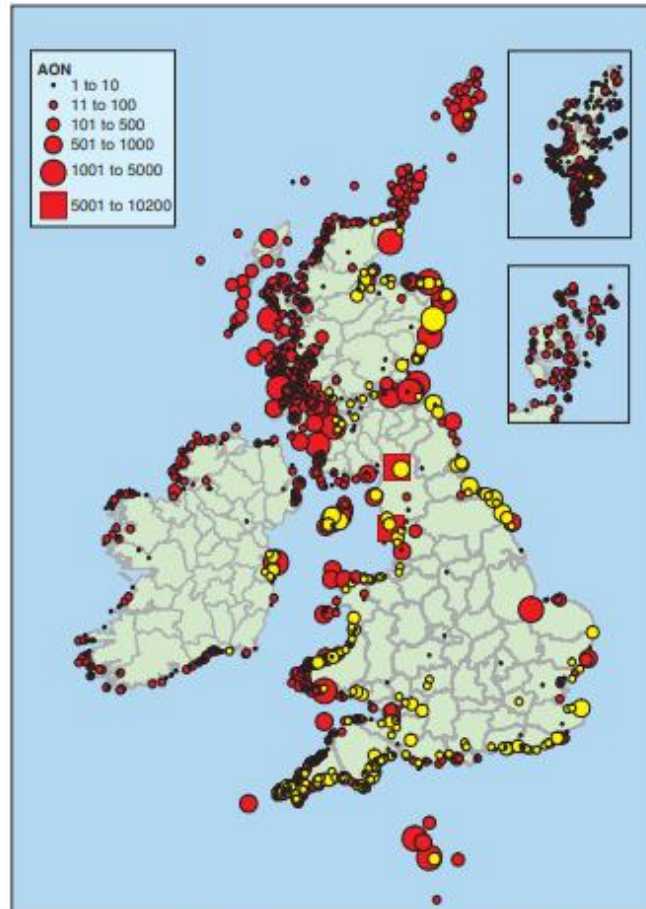


Figure 1 Abundance and distribution of breeding Herring Gulls in Britain and Ireland 1998–2002. Natural sites are shown in red and man-made sites (e.g. rooftops) are in yellow (the scale is the same for both types of sites).

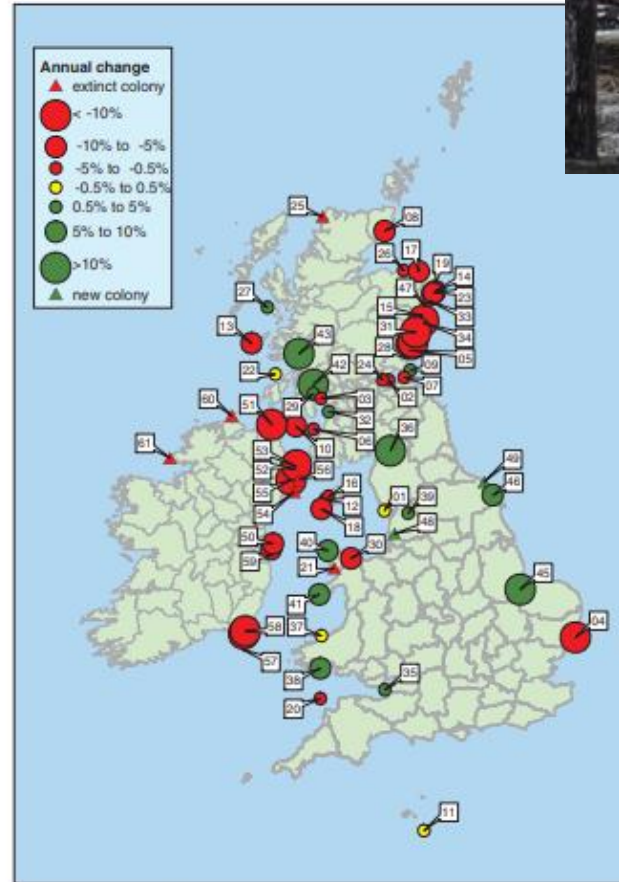


Figure 2 Changes in the number of breeding Herring Gulls (AON) at major coastal colonies in Britain and Ireland between the SCR Census (1985–88) and Seabird 2000 (1998–2002). Major coastal colonies are those that contained the top 40% of the British population during the SCR and/or Seabird 2000 or the top 75% of the Irish population during the SCR and/or Seabird 2000. Numbers correspond to colonies listed in Table 2.



Figure 3 Herring Gull – sites with AON in urban breeding habitat (the coast)

Slide courtesy of Ricky Whelan, Birdwatch Ireland



Shifting Baselines...



“The knock on effects of shifting baselines are low ambition in conservation goals – often the goal is to maintain ‘as is’ rather than to restore what was there 50, 100 or 200 years ago.”

Dave Wall, Citizen Science Officer, National Biodiversity Data Centre

Donegal
1969
+ 1972





Thank you