

Community Climate Action Programme



Cork
Environmental
Forum



Comhairle Cathrach Chorcaí
Cork City Council

Biodiversity and Nature Based Solutions

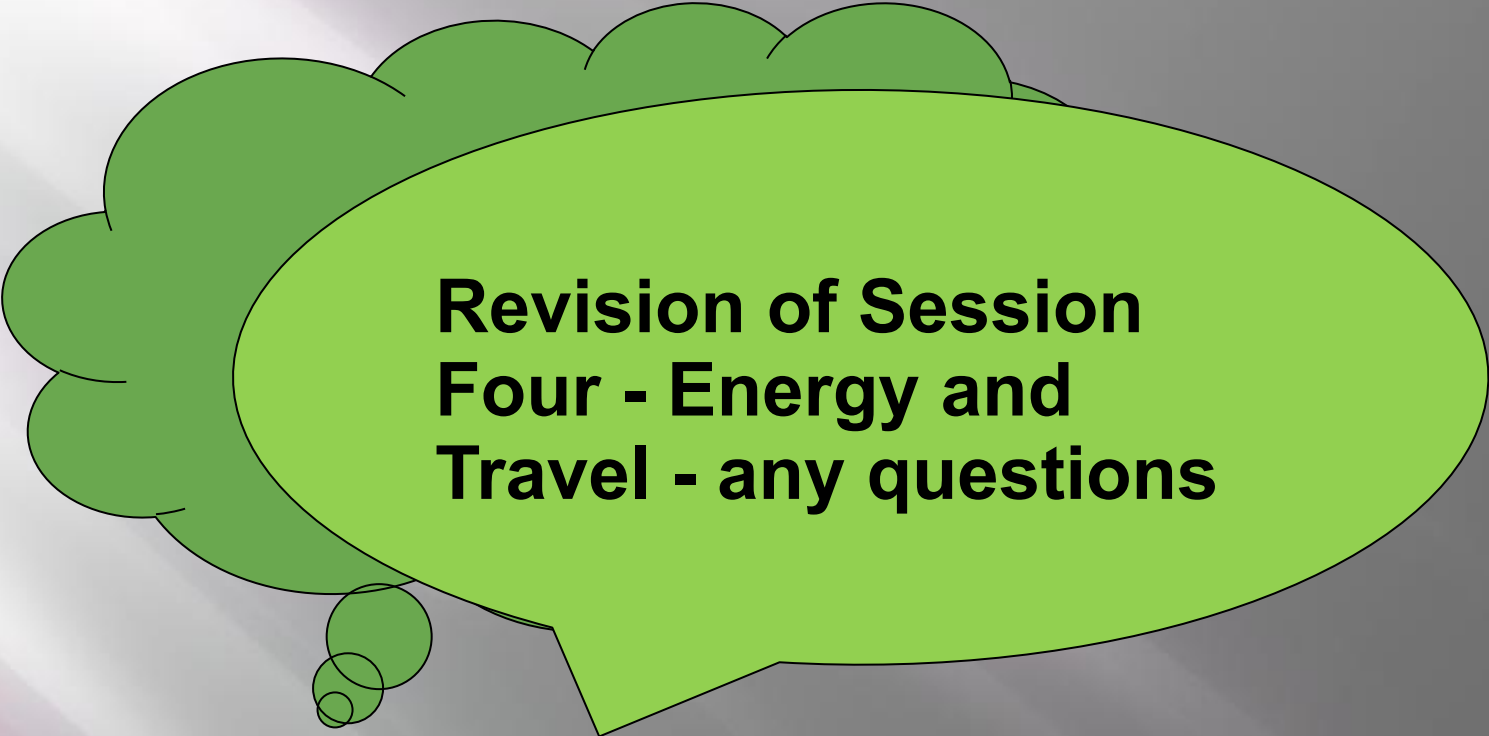


Cork Community Climate Action Programme

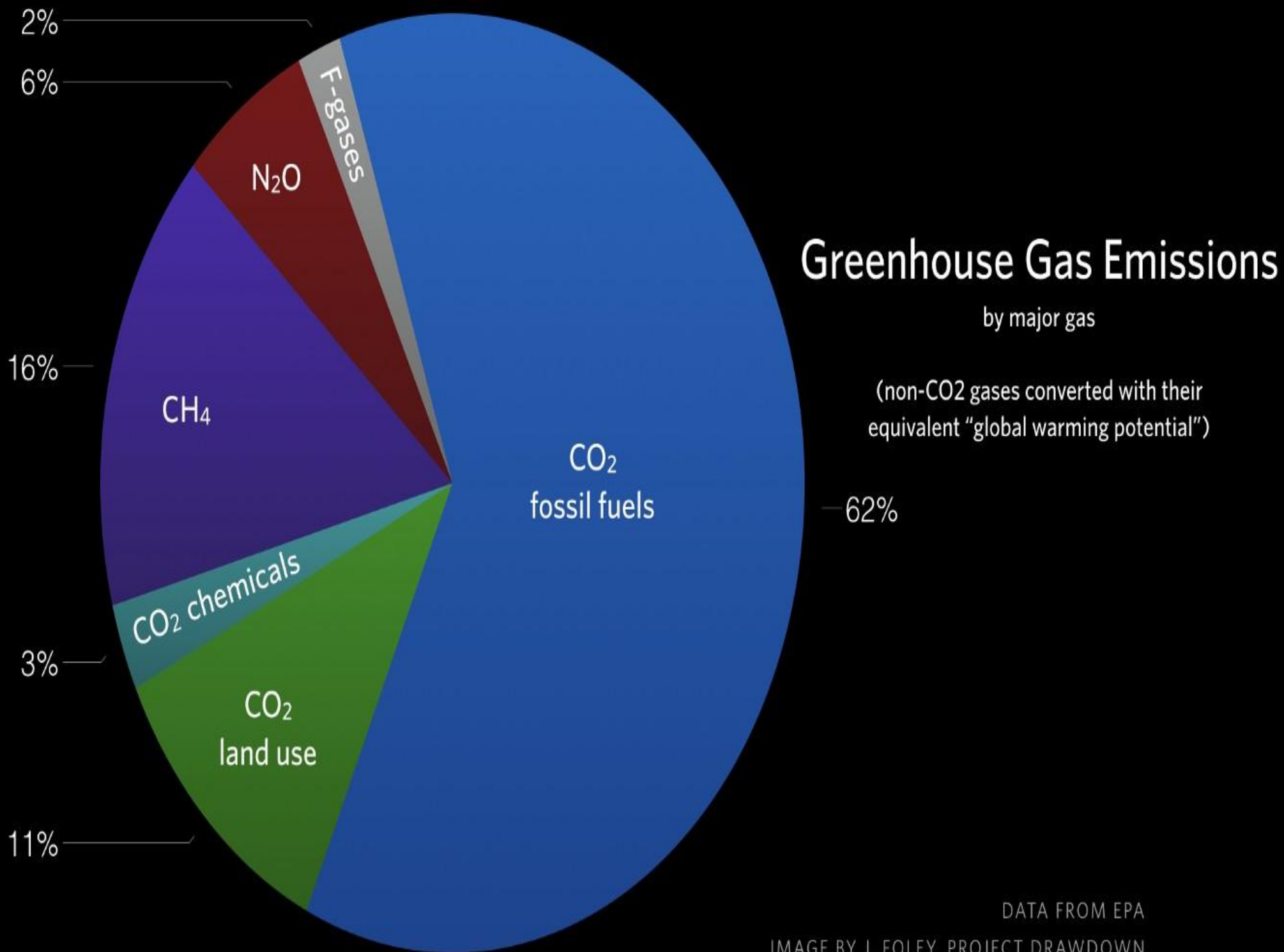
1. Intro & Community resources
2. Waste & Consumption
3. Food & Water
4. Energy & Travel
- 5. Biodiversity & Nature-based solutions**
6. Review of Training and developing an action plan and CCAP Programme Evaluation

October 25th Final Session to Present Plans

Two weeks to finalising the Community Climate and Biodiversity Action Plan

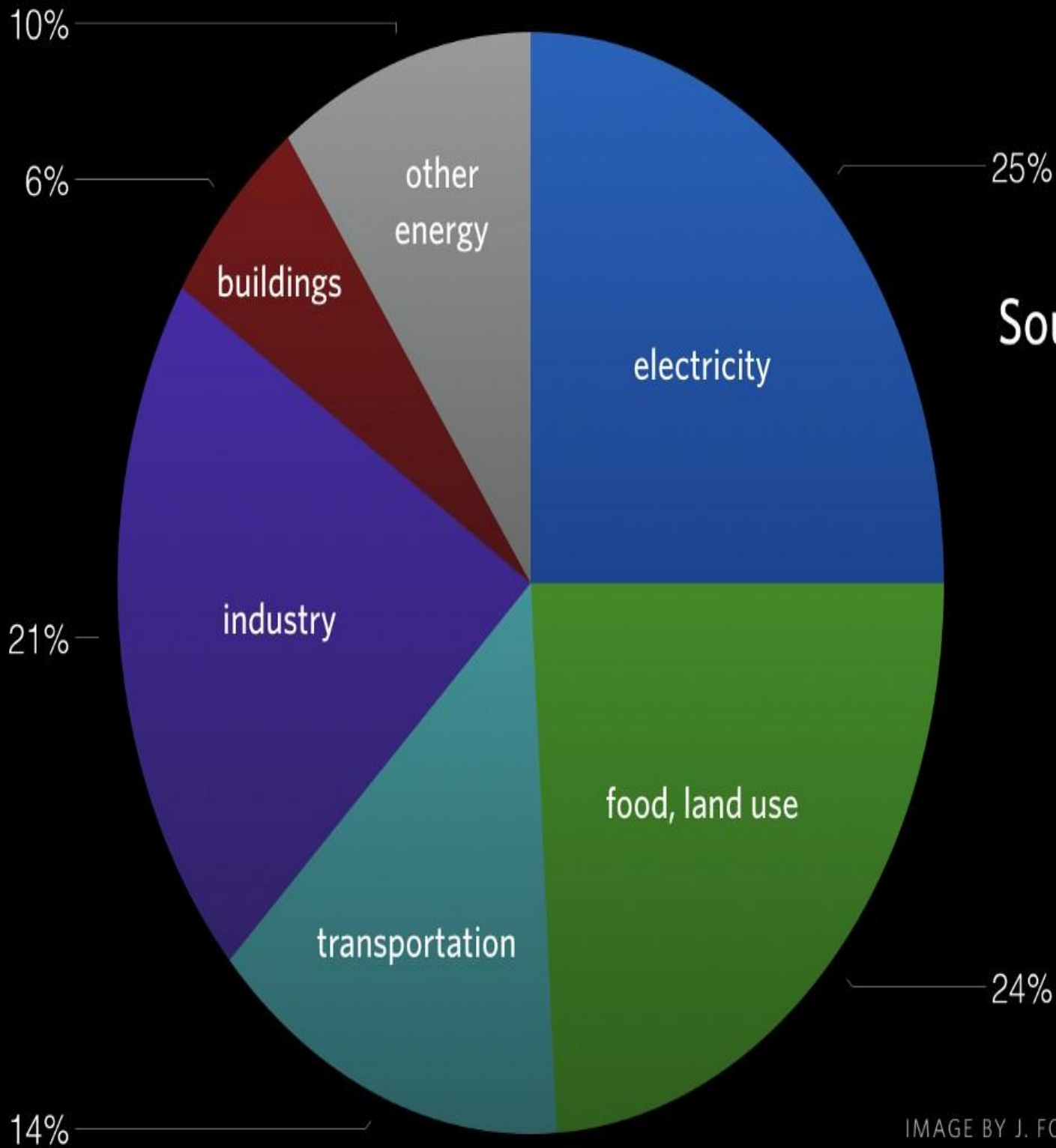


**Revision of Session
Four - Energy and
Travel - any questions**



DATA FROM EPA

IMAGE BY J. FOLEY, PROJECT DRAWDOWN



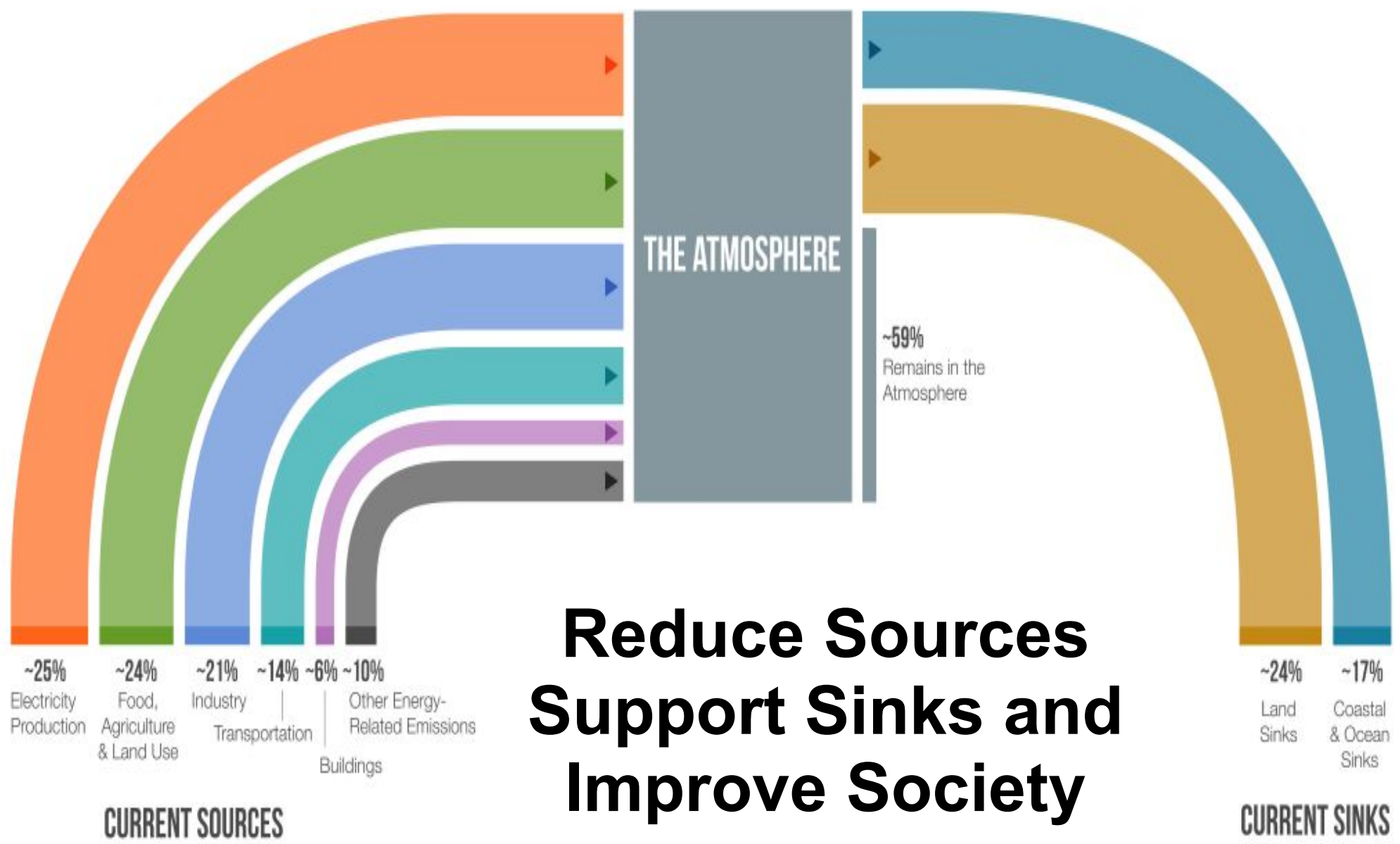
Sources of Greenhouse Gas Emissions

by major sector

DATA FROM EPA

IMAGE BY J. FOLEY, PROJECT DRAWDOWN

EMISSIONS SOURCES & NATURAL SINKS



Individual Energy Actions

Top 5 free actions

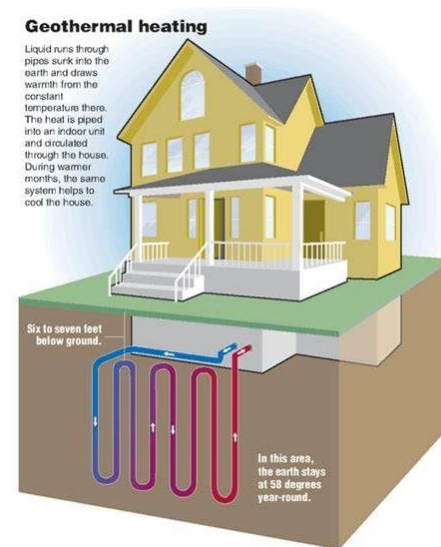
1. Share the house more – get a lodger
2. Reduce temperature gradually to 18°C or 17°C
3. Switch to a green electricity supplier
4. Shorter showers / smaller baths
5. Switch off equipment at socket and lights.

Top 5 most cost-effective actions

1. Fit and use thermostatic radiator valves
2. Smart thermostat or smart use of heat controls
3. Fit LED bulbs in all lights
4. Top up loft insulation to 350mm
5. Draught exclusion & block chimneys

St Patrick's, Kiltegan, Co. Wicklow

ALTERNATIVE ENERGY SOURCES



Individual Travel Actions

Passengers

- For shorter journeys, walk or cycle
- Fly less
- Substitute car journeys with public transport
- Holiday closer to home
- Carshare
- Get rid of one car

Consumption - Freight

- Buy less and local
- Repair and buy second hand
- Avoid goods that come in by air

Learning Outcomes

By the end of this module you will be able to:

- Explain what biodiversity means.
- Identify the leading causes of biodiversity loss.
- Describe different ecosystem services.
- Identify local Nature Based Biodiversity and Climate Solutions.
- Identify Irish biodiversity organisations and projects working for biodiversity restoration.



Presentation

What is biodiversity

Biodiversity - Biological Diversity



The variety of all living things: Plants, Animals and Micro-organisms, Ecosystems and Habitats

What is an ecosystem?

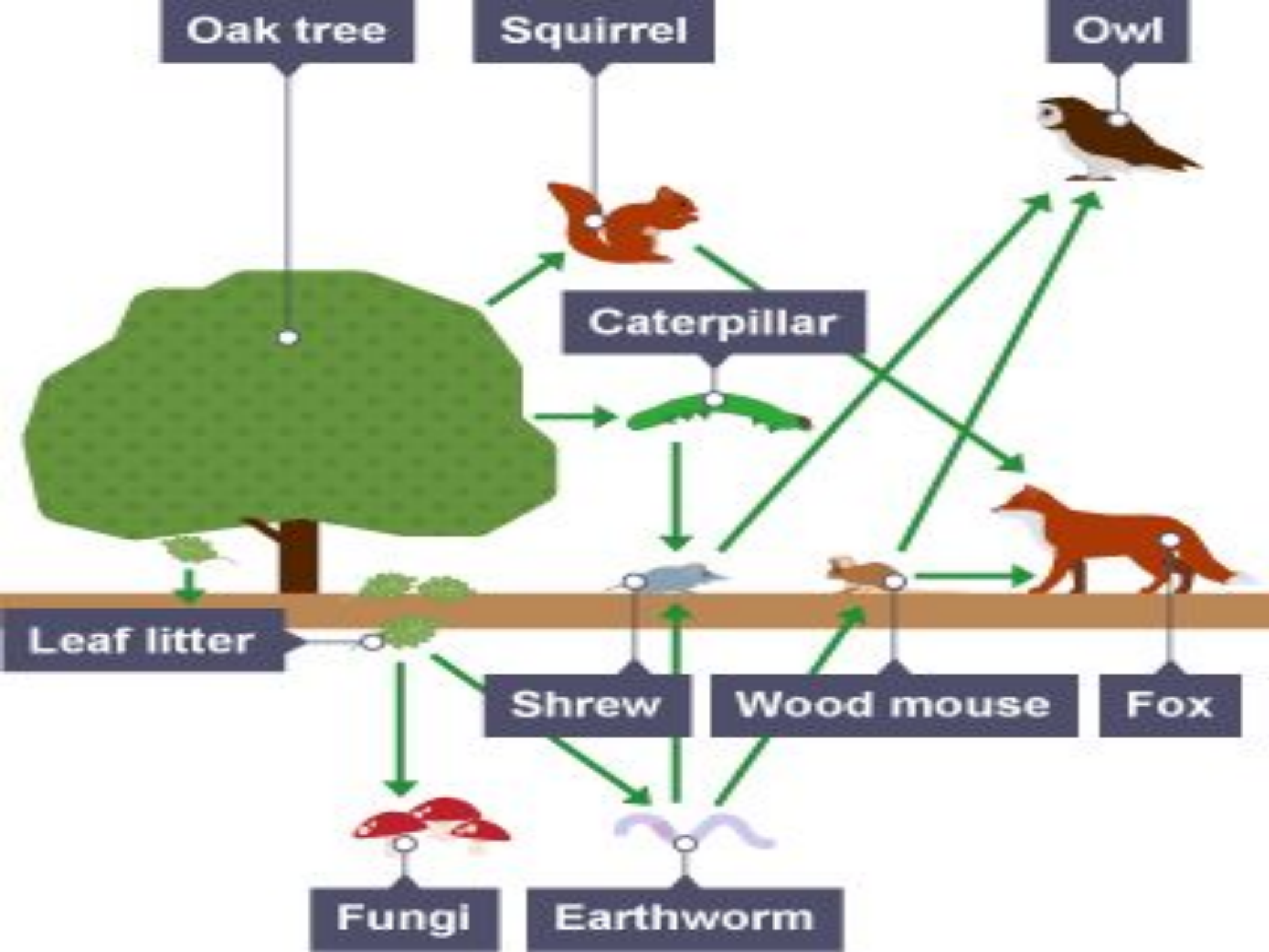
An ecosystem is a community of plants, animals, fungi and micro-organisms that live, feed, reproduce and interact together in the same area or environment.

Irish examples include a bog, a woodland, a marsh, a hedge, a lake, or even a rock pool.

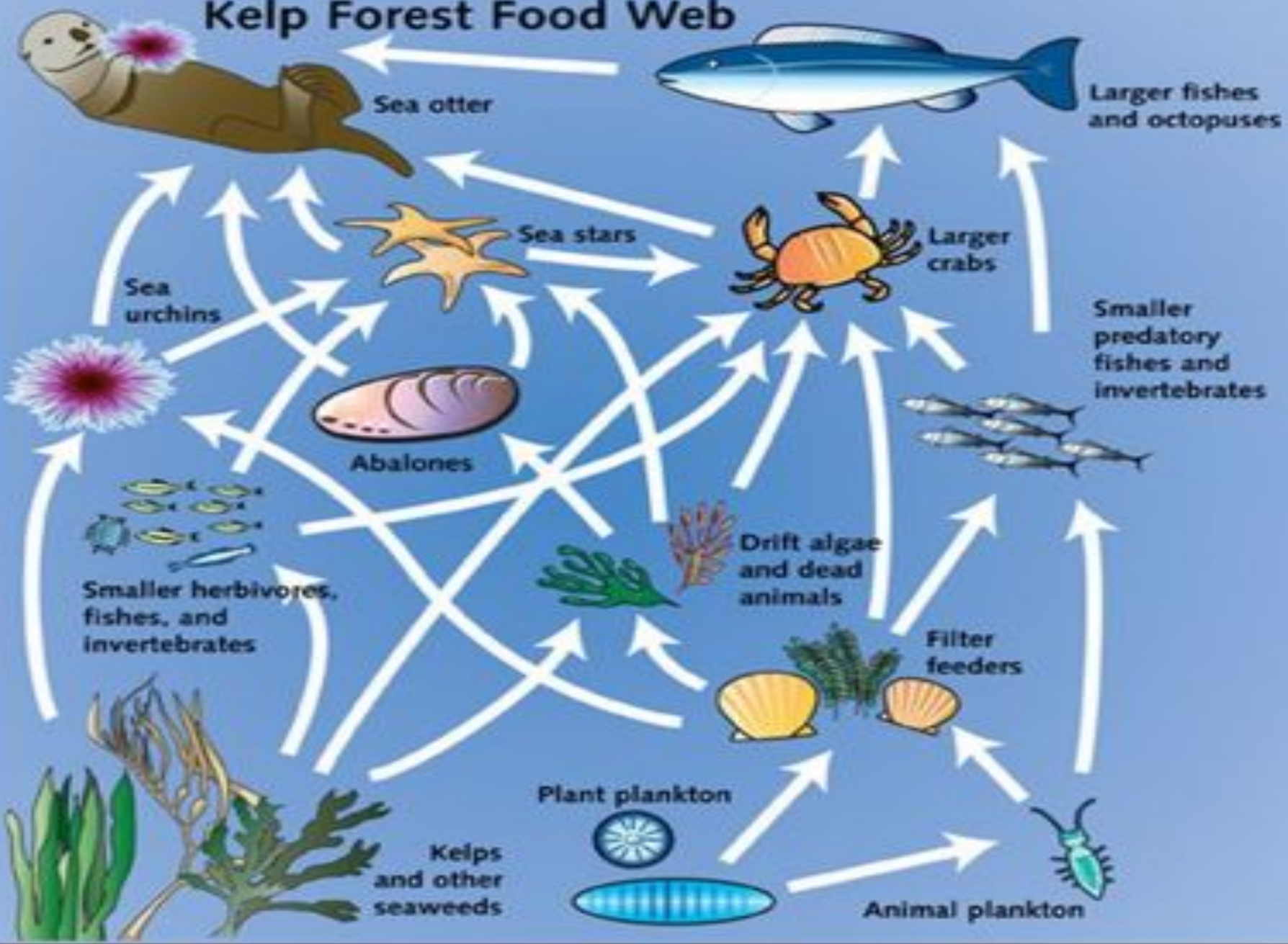


Ireland's Biodiversity





Kelp Forest Food Web



***The Earth and all Living Organisms are a single
self-regulating system***



James Lovelock Thomas Berry Deep Time Walk

Ecosystems and Life are One Integrated Interdependent System

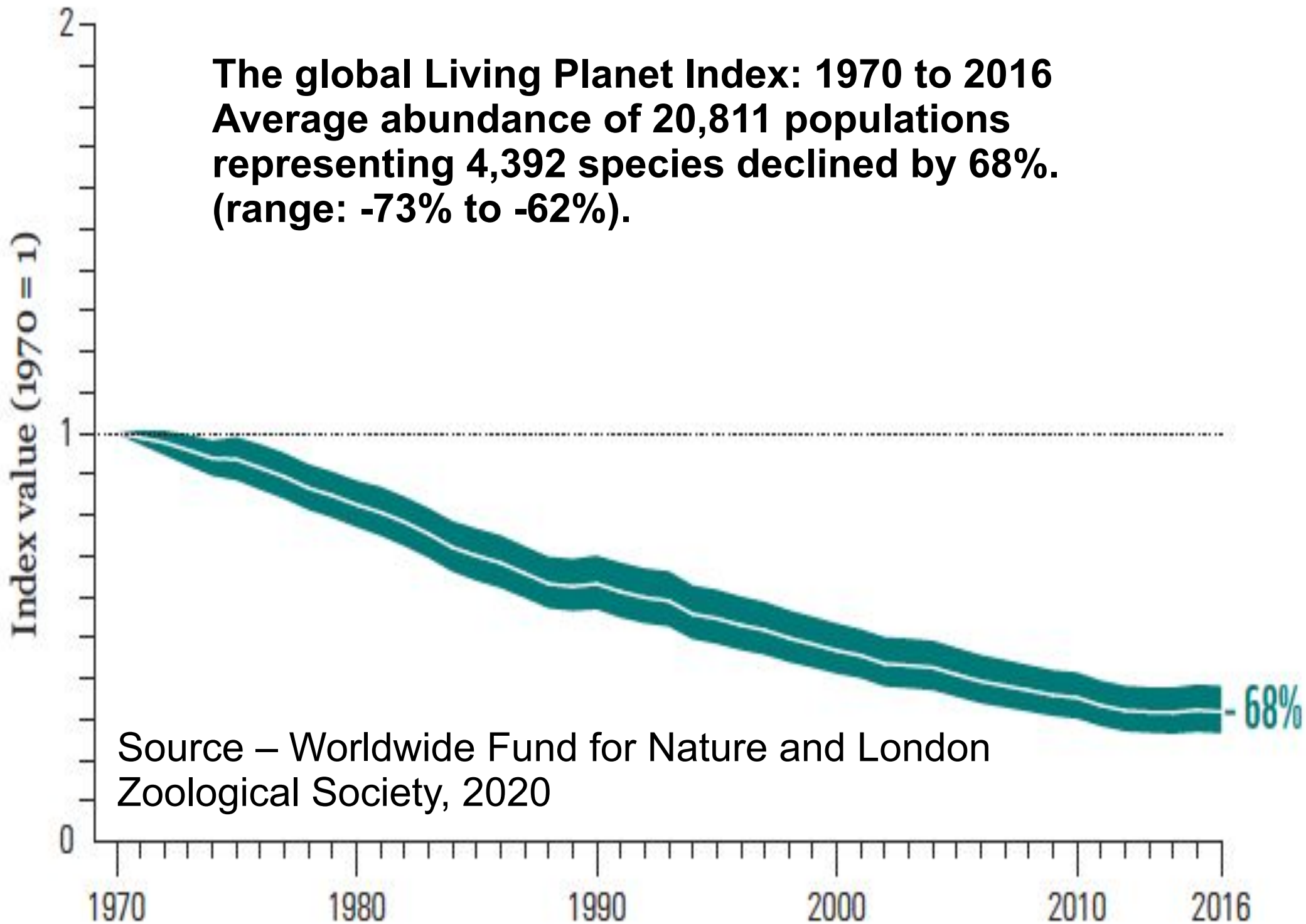
If we save the living environment, the biodiversity that we have left today, then we will also automatically save the physical environment. If we only save the physical environment, then we will ultimately lose both.

E. O. Wilson

A green thought bubble with a black outline, containing a question. The bubble has a large, irregular main shape and two smaller circles at the bottom left. The background is a gradient of grey and white with diagonal lines.

**What are the causes of
biodiversity loss on
land in Ireland?**

The global Living Planet Index: 1970 to 2016
Average abundance of 20,811 populations
representing 4,392 species declined by 68%.
(range: -73% to -62%).



Source – Worldwide Fund for Nature and London
Zoological Society, 2020

BIRDS



MAMMALS



FISHES



REPTILES AND AMPHIBIANS



Key

- Habitat degradation/loss**
- Exploitation**
- Invasive species and disease**
- Pollution**
- Climate change**

Underlying Driver/Cause

- Agriculture, Fishing and logging
- Fishing & Hunting
- Zoonotic disease, pesticides, opportunistic diseases.
- Agriculture, Energy, Industry, Transport
- Agriculture, Energy, Industry, Transport





An aerial satellite view of a rural landscape, likely in Ireland, showing a patchwork of green and brown agricultural fields. A river or stream flows through the center. Several small towns and landmarks are labeled, including Lambstown, Taghmon, Horetown House, and Foulksmills. Road markers for 8718, 8730, and 8738 are visible on the right side. The text 'Agricultural land is now the largest ecosystem on the planet' is overlaid in white, italicized font at the top.

Agricultural land is now the largest ecosystem on the planet

Grass fed meat means ecosystem / biodiversity fed meat

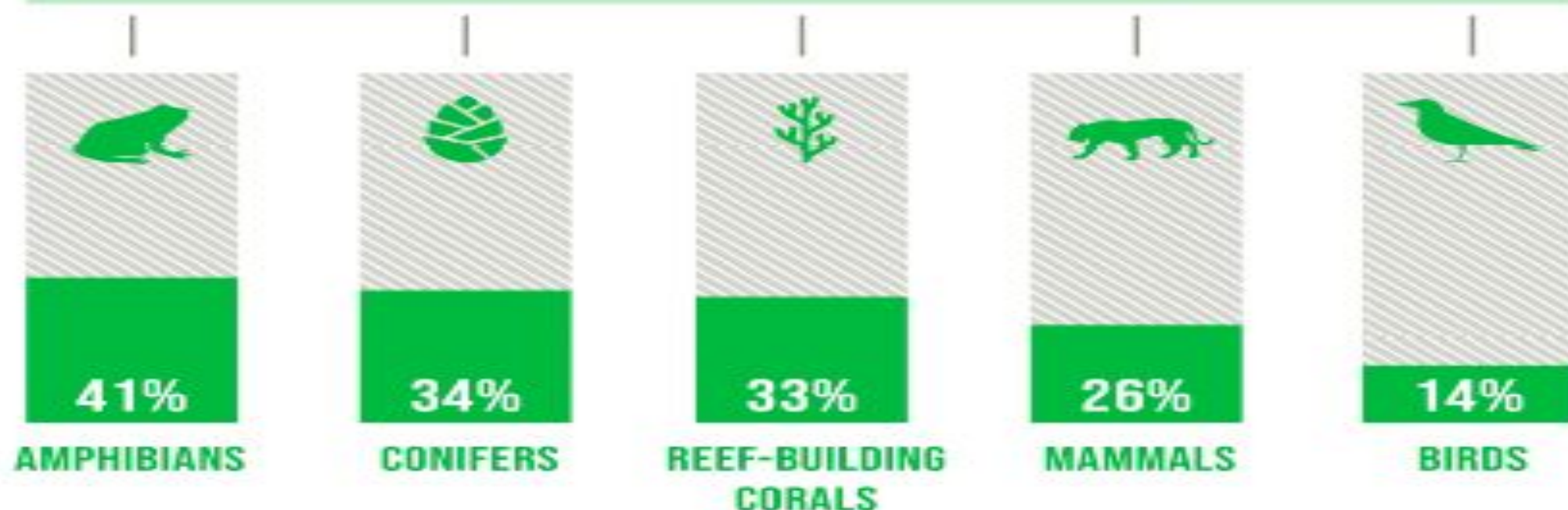
Google



PROTECT, RESTORE AND PROMOTE SUSTAINABLE USE OF TERRESTRIAL ECOSYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, AND HALT AND REVERSE LAND DEGRADATION AND HALT BIODIVERSITY LOSS

MORE THAN A QUARTER OF SPECIES ASSESSED BY THE IUCN RED LIST ARE THREATENED WITH EXTINCTION

PROPORTION OF SPECIES THREATENED WITH EXTINCTION



SDG Goal 15: Life on Land

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

By 2020, halt deforestation, restore degraded forests and increase afforestation and reforestation globally

By 2030, combat desertification, restore degraded land and soil, and strive for a land degradation-neutral world

By 2030, ensure conservation of mountain ecosystems

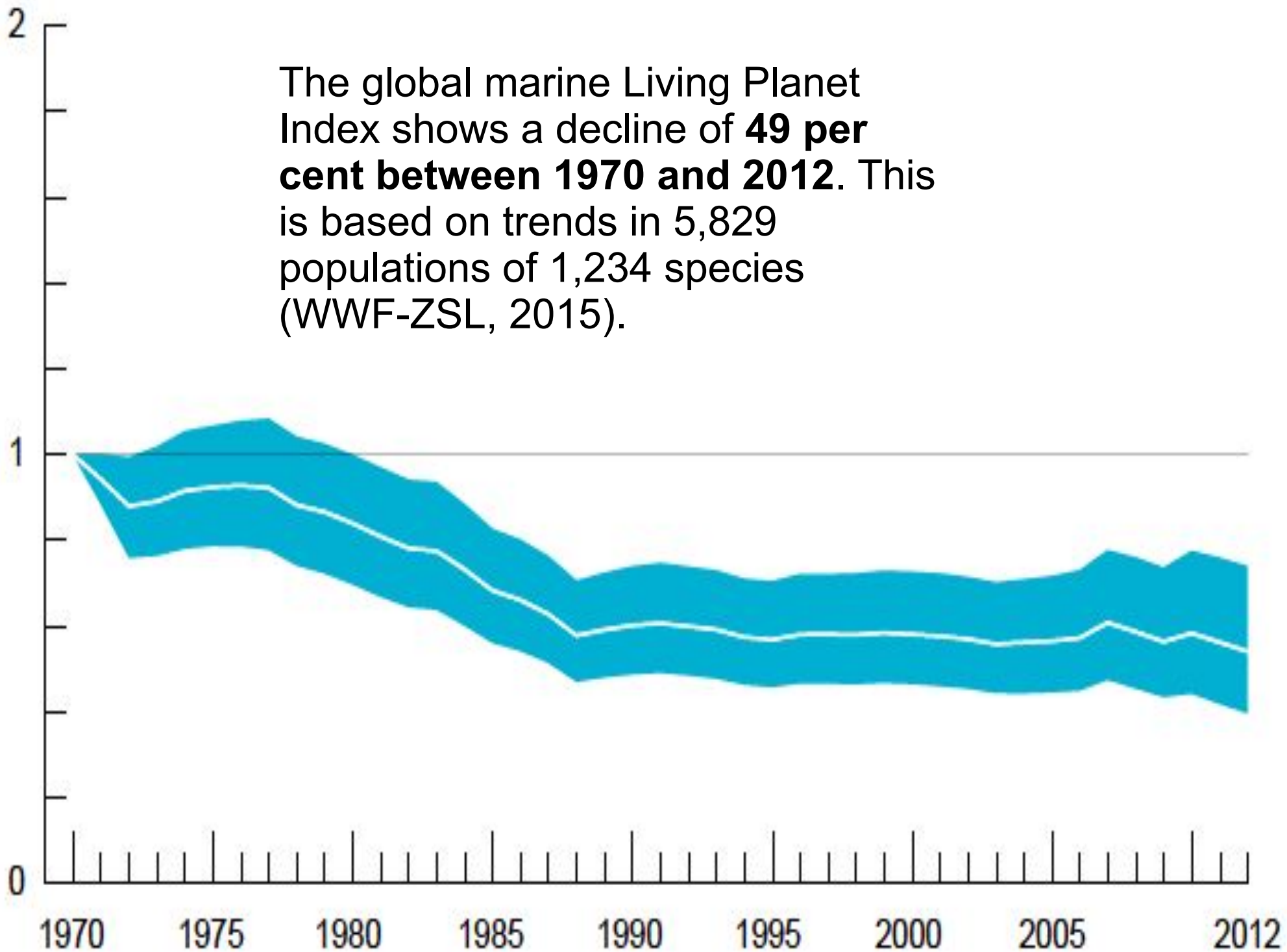
Reduce the degradation of natural habitats, halt the loss of biodiversity and prevent the extinction of threatened species, end poaching and reduce invasive species



What are the causes of biodiversity loss in the ocean in Ireland?

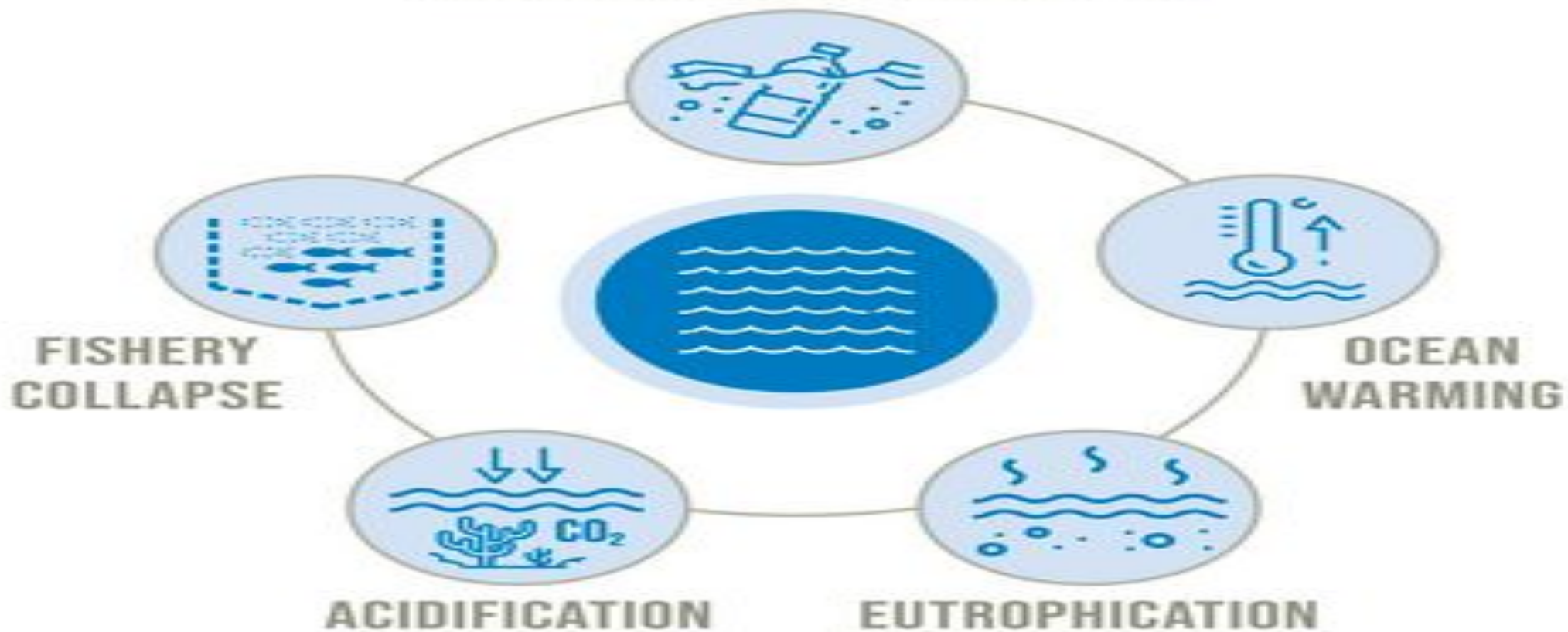
The global marine Living Planet Index shows a decline of **49 per cent between 1970 and 2012**. This is based on trends in 5,829 populations of 1,234 species (WWF-ZSL, 2015).

Index value (1970=1)



THE SUSTAINABILITY OF OUR OCEANS IS UNDER SEVERE THREAT

PLASTIC/MARINE POLLUTION



SDG Goal 14: Life Below Water

Conserve and sustainably use the oceans, seas for sustainable development

By 2025, prevent and reduce marine pollution including marine debris and nutrient pollution

By 2020, sustainably manage and protect marine and coastal ecosystems

Minimize and address the impacts of ocean acidification,

By 2020, regulate and end overfishing, IUU fishing and destructive fishing practices and restore fish populations

By 2020, conserve at least 10 per cent of coastal and marine areas

By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing,

DRIVER OF CHANGE

POTENTIAL NEGATIVE IMPACTS

Fishing



Overexploitation, bycatch of non-target species, seafloor habitat destruction from seafloor trawling, illegal, unregulated, and unreported (IUU) fishing, gathering of organisms for the aquarium trade.

Climate change



Warming waters, ocean acidification, increased oxygen minimum zones, more frequent extreme events, change in ocean currents.

Land-based pollution



Nutrient run-off, contaminants such as heavy metals, micro- and macro-plastics.

Ocean-based pollution



Waste disposal, fuel leaks and dumping from ships, oil spills from offshore platforms, noise pollution.

Coastal development



Destruction of habitats, increased pressure on local shorelines, increased pollution and waste.

Invasive alien species



Invasive species accidentally (e.g. through ballast water) or deliberately introduced; more climate-driven invasions likely.

Offshore infrastructure



Physical disturbance of the seafloor, creation of habitat structure.

Shipping



Vessel strikes, pollution from dumping.

Mariculture

(aquaculture of marine organisms)




Physical presence of aquaculture facilities, pollution.

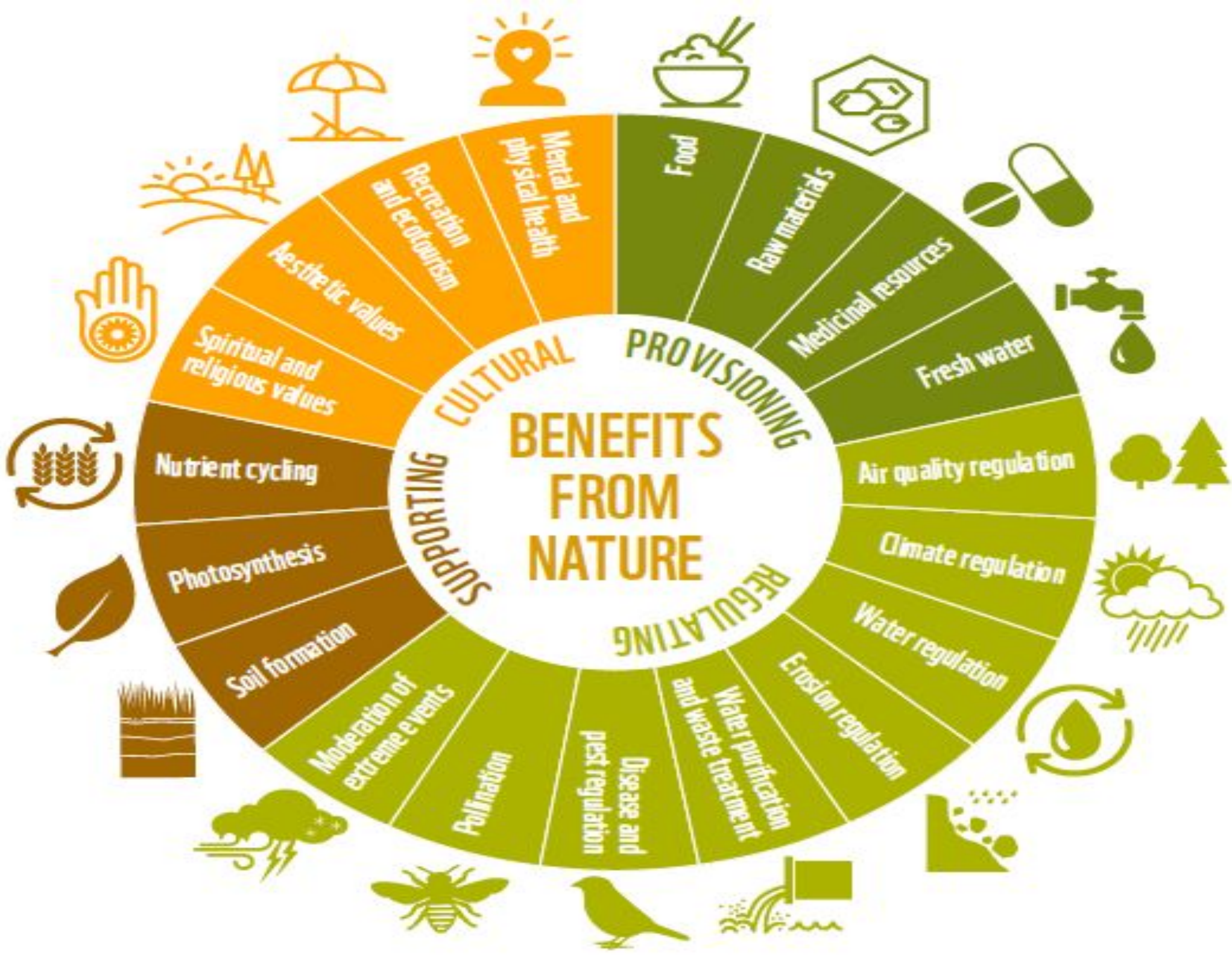
Deep-sea mining

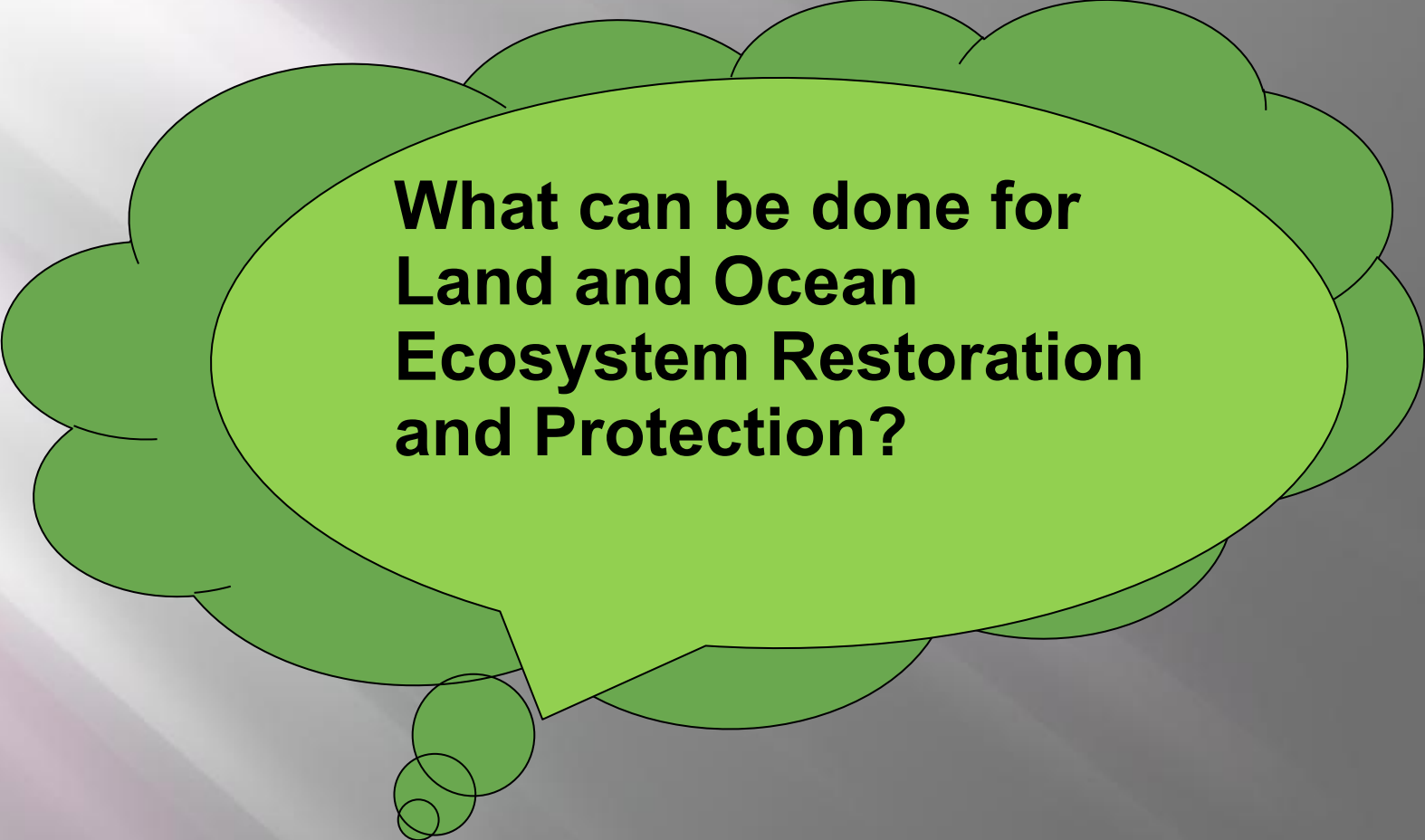


Seafloor destruction, settlement plumes on seabed, potential for leakages and chemical spills, noise pollution.

A large, light green thought bubble with a black outline and a drop shadow, set against a background of diagonal grey and white stripes. The bubble contains a question in bold black text. At the bottom of the bubble, there are three smaller, overlapping circles of the same color, suggesting a trail of thought.

**Please list ten examples
of goods or services that
are provided by
biodiversity and
ecosystems?**

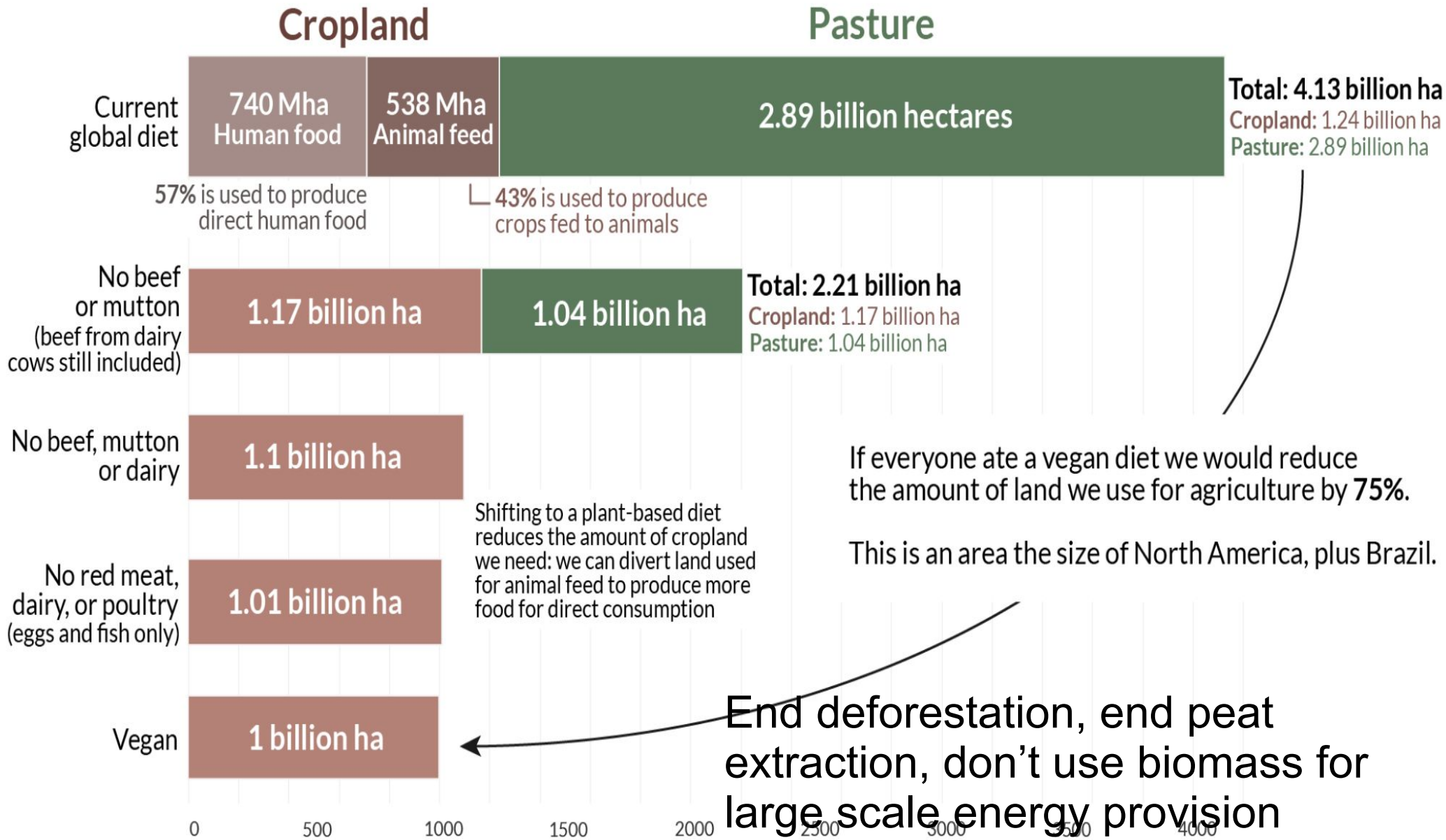


A large, light green thought bubble with a darker green outline and a scalloped edge. Inside the bubble, the text "What can be done for Land and Ocean Ecosystem Restoration and Protection?" is written in bold black font. Three smaller, light green circles of decreasing size trail off from the bottom left of the main bubble.

**What can be done for
Land and Ocean
Ecosystem Restoration
and Protection?**

Global land use for agriculture across different diets

Global agricultural land use is given for cropland and pasture for grazing livestock assuming everyone in the world adopted a given diet. This is based on reference diets that meet calorie and protein nutritional requirements.



Hunger and Social Justice

*“The world’s **croplands** could feed 4 billion more people than they do now just by shifting from producing animal feed and biofuels to producing exclusively food for human consumption”.*

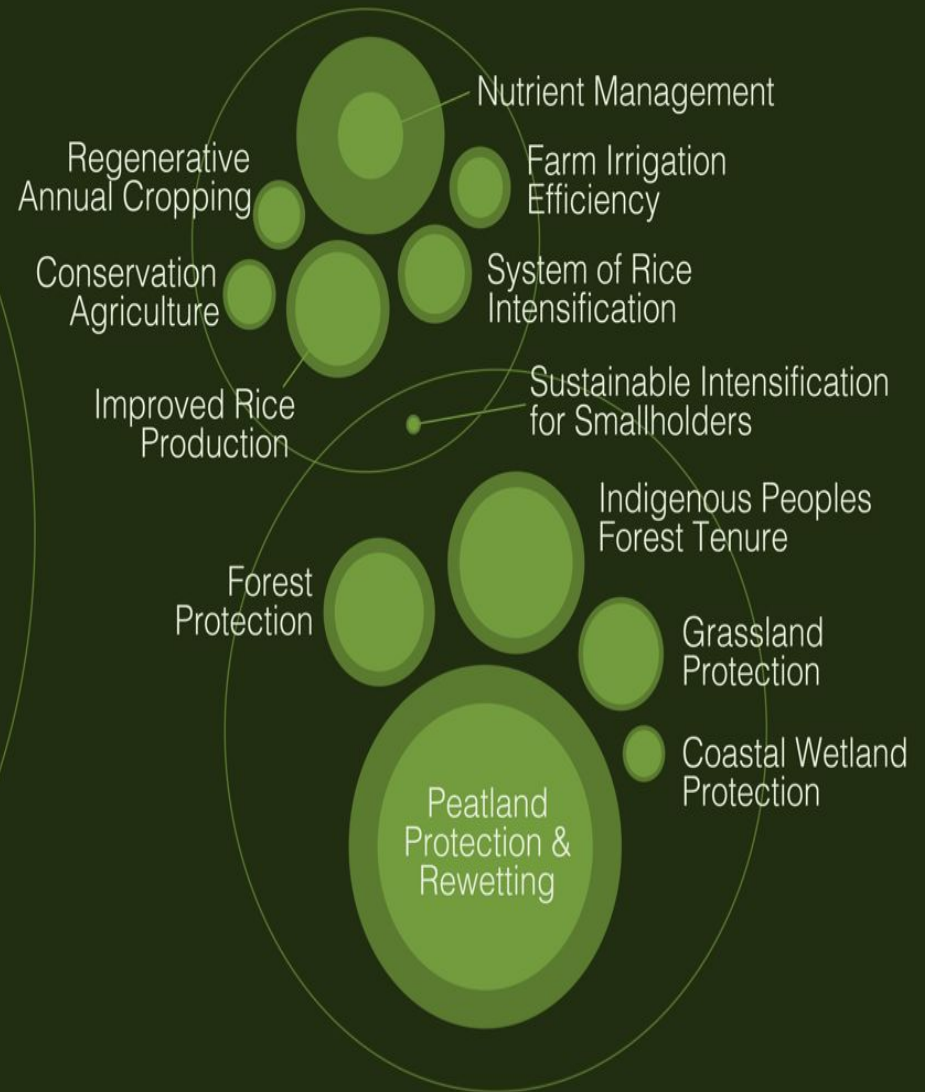
Institute on the Environment at the
University of Minnesota 2013

FOOD, AGRICULTURE, LAND USE SOLUTIONS

ADDRESS WASTE & DIETS



SHIFT AGRICULTURE PRACTICES



PROTECT ECOSYSTEMS



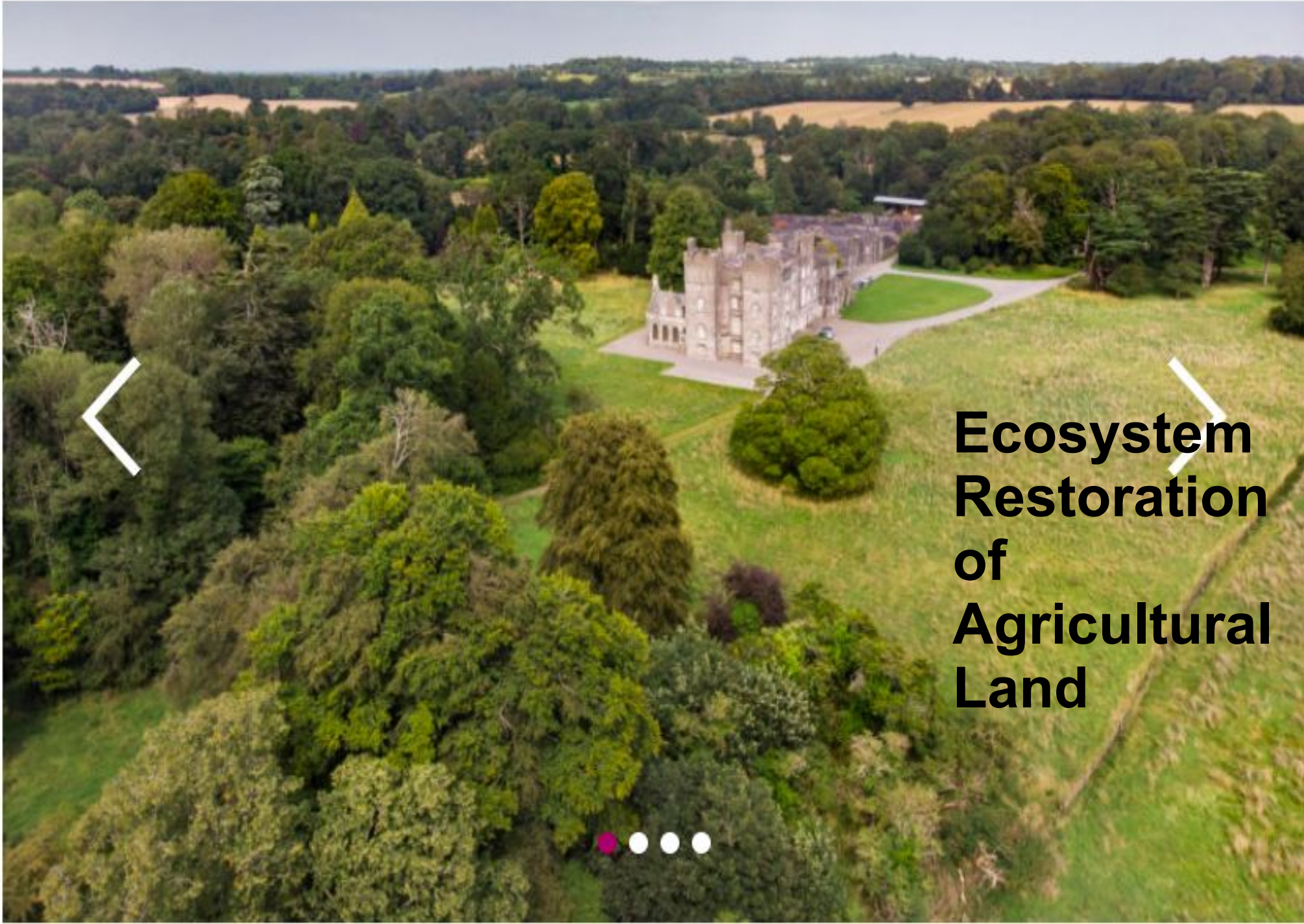
UN DECADE

ON

ECOSYSTEM RESTORATION

2021-2030

Dunsany Rewilding, Co Meath



**Ecosystem
Restoration
of
Agricultural
Land**

The Cost of Business as Usual in UK Seas, WWF

ONLY 4 OF 15 INDICATORS OF HEALTH OF UK SEAS WERE IN 'GOOD' STATUS IN 2019



<1% OF UK SEAS ARE FULLY PROTECTED BY LAW

£15 BN LOSING COASTAL ECOSYSTEMS AND FISHERIES WOULD COST THE UK £15BN PER YEAR BY 2050



UK HABITAT LOSS

95%
OYSTER REEFS

90%
SEAGRASS

85%
SALTMARSH

The Value of Restored UK Seas Report, WWF 2020



COASTAL ECOSYSTEMS CAN CAPTURE 33% OF THE UK'S 2018 EMISSIONS, WORTH £10.1BN



SUSTAINABLY DEPLOYING OFFSHORE RENEWABLES WILL BRING £26BN IN BENEFITS



BETTER MANAGEMENT OF MPAS CAN DELIVER UP TO £10.5BN OF RECREATIONAL AND OTHER BENEFITS



COASTAL ECOSYSTEMS CAN PROVIDE OVER £6BN WORTH OF FLOOD PROTECTION SERVICES



£9.8BN WORTH OF SHIPPING EMISSIONS REDUCTIONS BETWEEN 2020 AND 2050

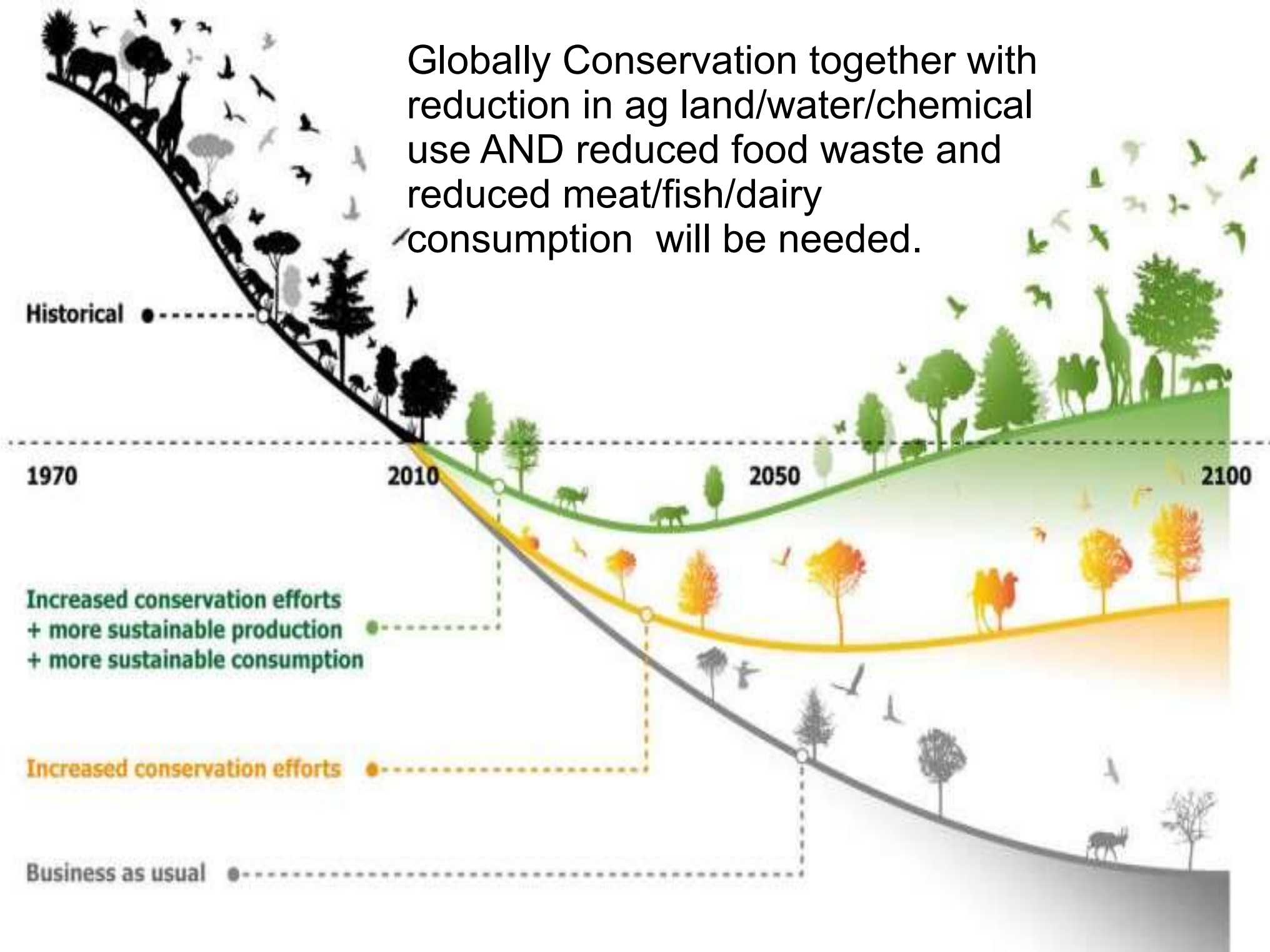


CLIMATE CHANGE WILL COST THE UK FISHING SECTOR AT LEAST £1.5BN BY 2050 WITHOUT OCEAN RECOVERY



OCEAN RECOVERY HAS THE POTENTIAL TO CREATE UP TO 100,000 JOBS IN A GREEN RECOVERY

Globally Conservation together with reduction in ag land/water/chemical use AND reduced food waste and reduced meat/fish/dairy consumption will be needed.



A green thought bubble with a black outline, containing text. The bubble has a large, irregular main shape and two smaller circles at the bottom left. The background is a gradient of grey and white with diagonal lines.

**Are Global, European
and National
Biodiversity plans
delivering?**

Figure 6.9 Examples of targets and commitments from the EU Biodiversity Strategy for 2030
Recreated from the EU factsheet *Bringing Nature Back into our Lives* (EU, 2020b)



EU Biodiversity Strategy for 2030

IRELAND

6th National Report to the Convention on Biological Diversity

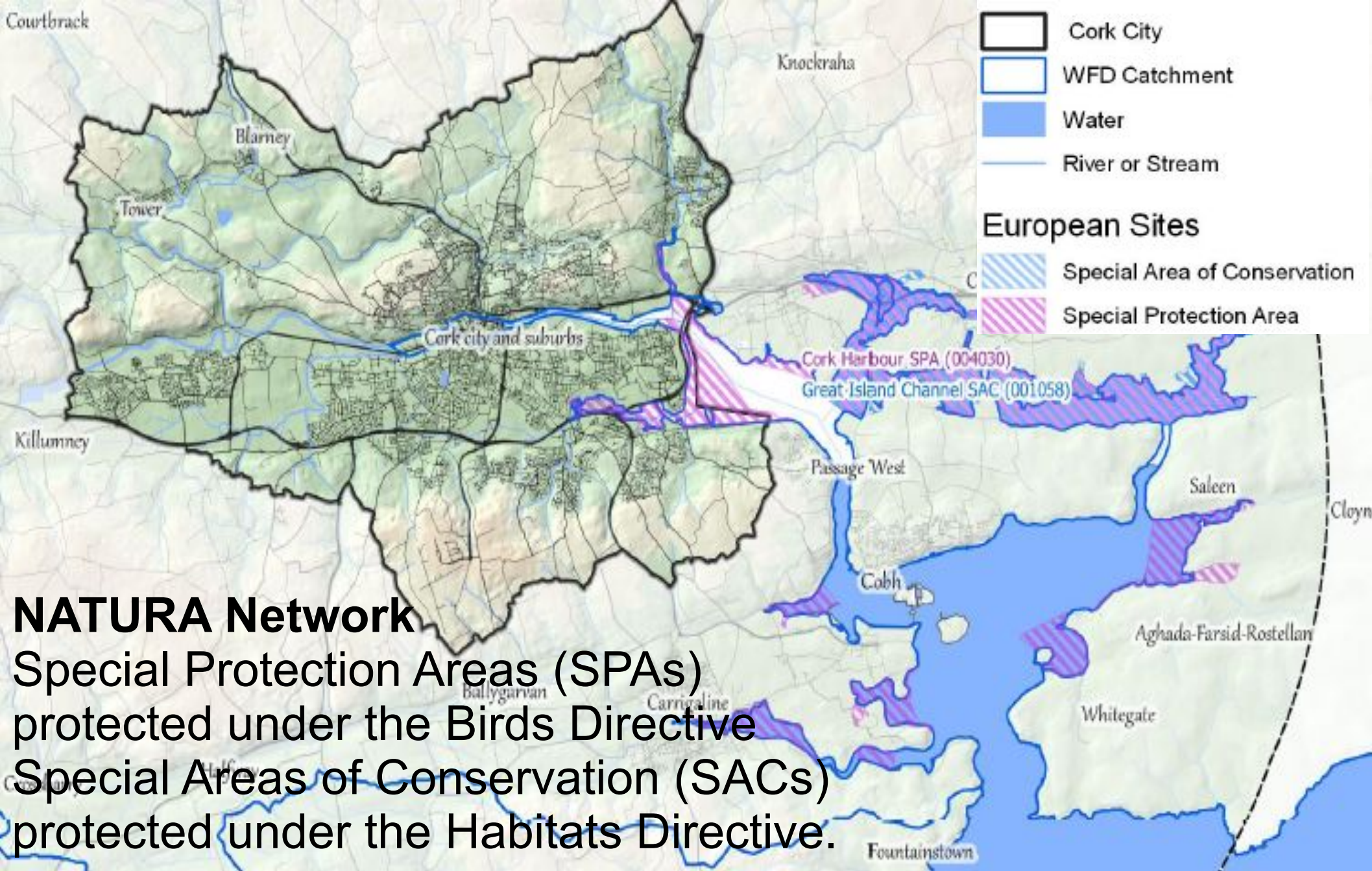


The NPWS Local Authority Biodiversity Grant Scheme provides funding to assist LA biodiversity officers (and heritage officers) with projects that promote actions in the National Biodiversity Action Plan 2017-2021

National Biodiversity Action Plan | 2017-2021



An Roinn
Cultúir, Dlídhreacht agus Gaeltachta
Department of
Culture, Heritage and the Gaeltacht



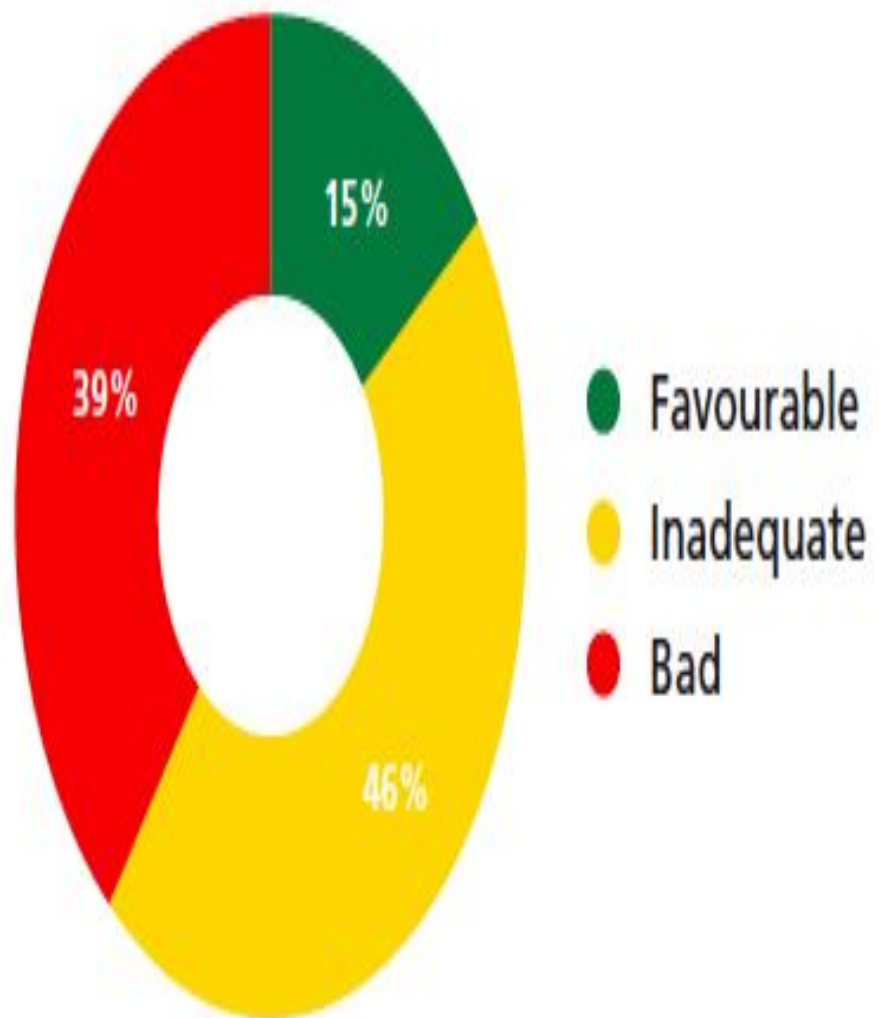
NATURA Network
 Special Protection Areas (SPAs)
 protected under the Birds Directive
 Special Areas of Conservation (SACs)
 protected under the Habitats Directive.

EU Natura Sites within 15km from and hydrologically linked to Cork City, CCDDP

Figure 6.1 Overall assessment results for the status of and trends in habitats protected under the EU Habitats Directive in Ireland (Source: NPWS Article 17 Data 2019)

Status and Trends of Protected Ecosystems

Habitat status



Habitat trends

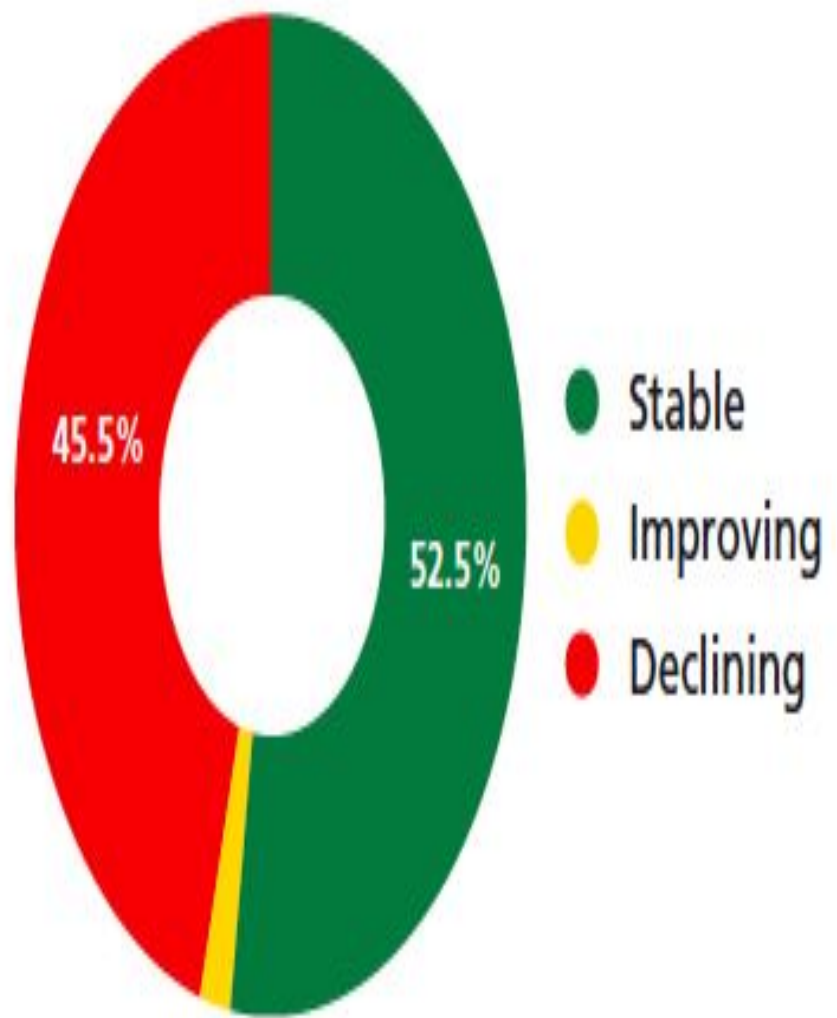
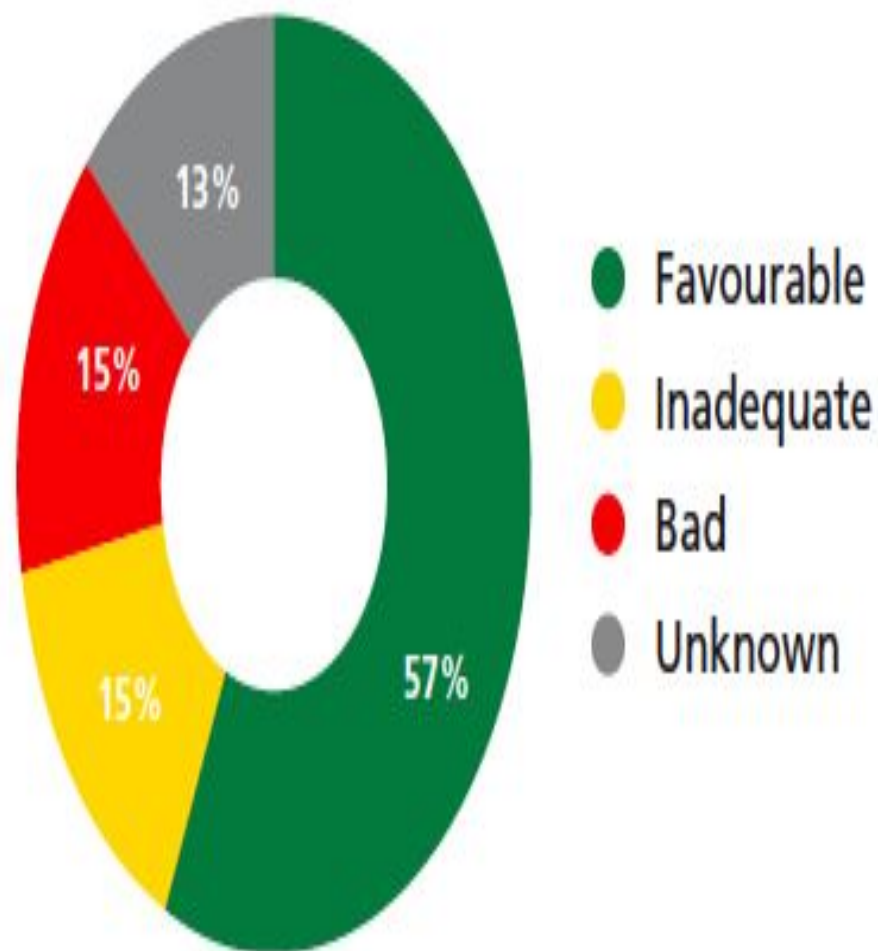


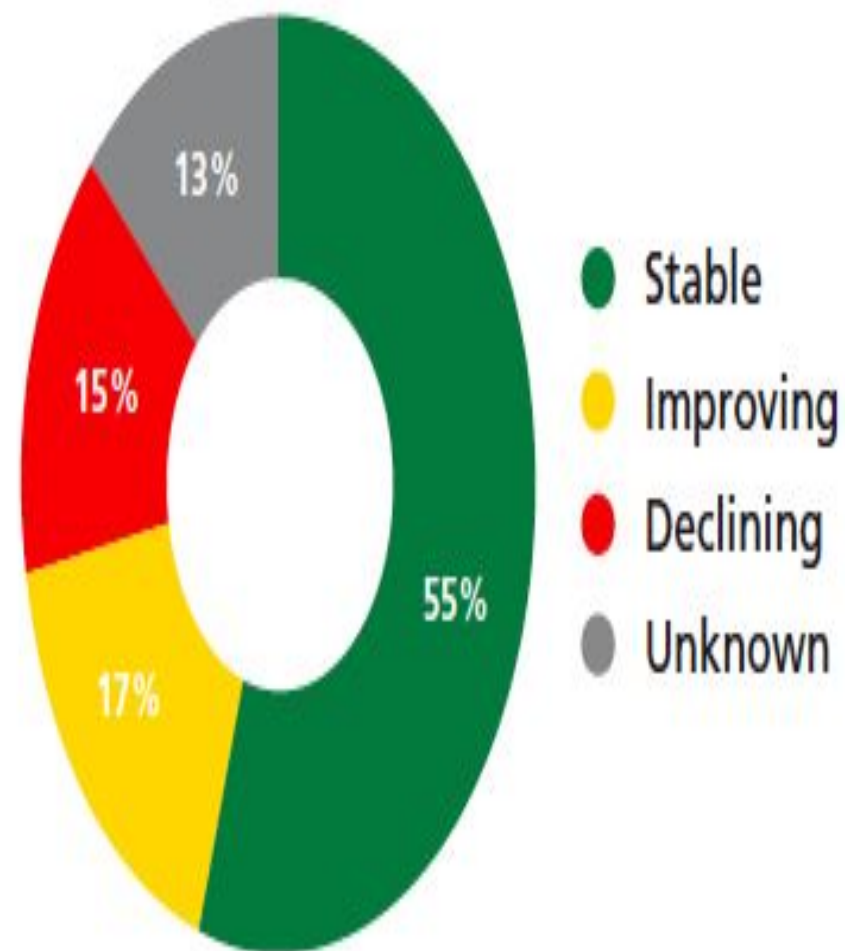
Figure 6.2 Overall assessment results for the status of and trends in species protected under the EU Habitats Directive in Ireland (Source: NPWS Article 17 Data 2019)

Status and Trends of Protected Species

Species status



Species trends



A green thought bubble with a white question inside. The bubble has a scalloped top edge and a tail pointing towards the bottom left. The text is centered within the bubble.

**What can be done in
Ireland and in our
Communities to restore
biodiversity?**

OVERVIEW



30 PUBLIC PARKS
MAINTAINED
BY DLRCC

TARGET



A CLIMATE-RESILIENT REGION

PREVENTING HABITAT AND
SPECIES LOSS

PROTECTING NATIVE SPECIES,
PARKS AND TREE COVER

300km²
DUBLIN BAY BIOSPHERE

18.9% ESTIMATED
AVERAGE TREE
CANOPY COVER IN DLR



EXAMPLES OF MAIN ACTION TYPES

Implementing Biosphere
Work Programme



Maximising tree canopy cover

Sustainable management
of public parks



Developing the County's
green infrastructure

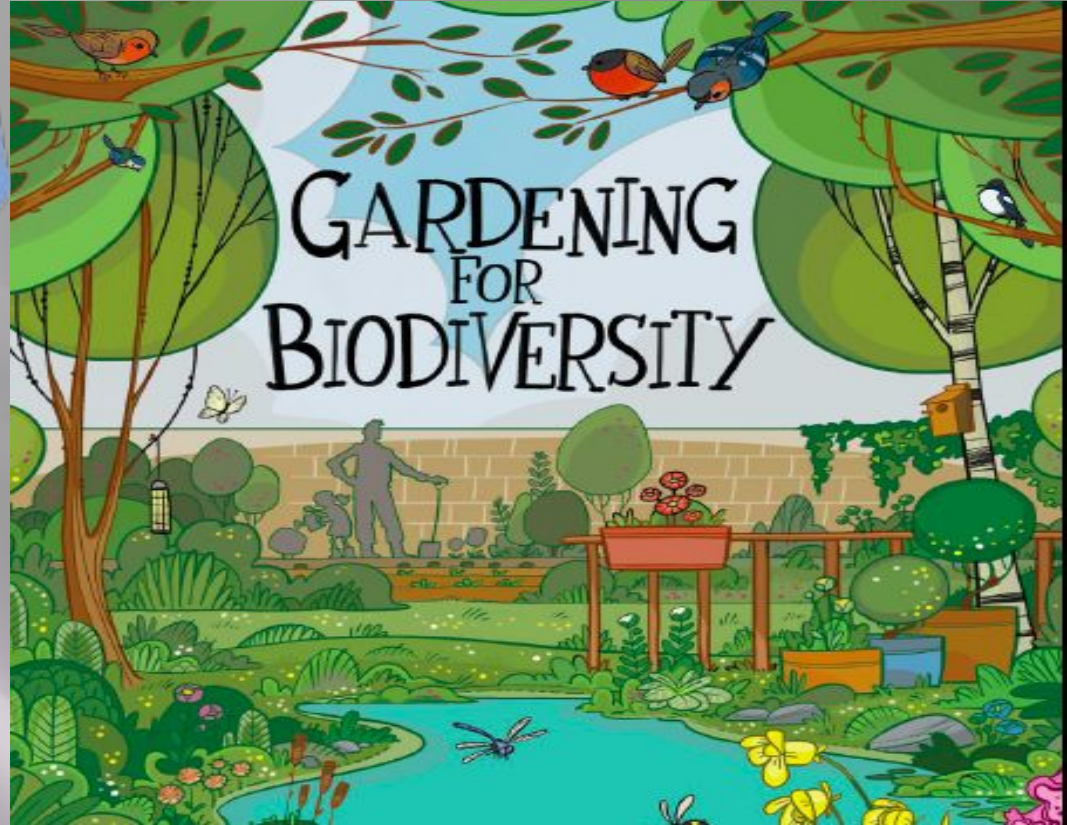
Protecting and enhancing
biodiversity and ecosystems

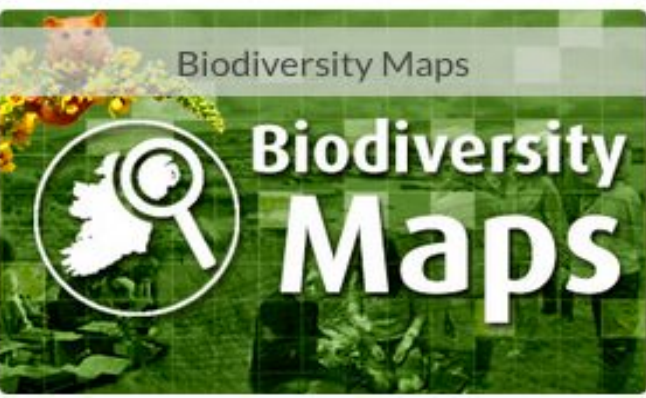


Protecting, maintaining and
planting trees across the County

National Biodiversity Data Centre

Documenting Ireland's Wildlife





Citizen Science Projects at the National Biodiversity Data Centre

Coastwatch Survey

September 15th to October 15th, 2019



Record key information on a shore of choice
DURING ONE LOW TIDE

Complete survey questions covering:

- Water** – Stream and other inflow qualities using test kits
 - Biodiversity** – Shore life: at home here or swept up from the deep
 - Litter** – Swept up and dumped on the shore + **Microlitter** app
- Your views and context information, to guide follow up action



Coastwatch



Book your survey unit NOW

www.coastwatch.org



kDubsy@coastwatch.org angel88dc@gmail.com emily.fair@ucdconnect.ie

**Citizen Science, Nat.
Biodiversity Data
Centre & Coastwatch**



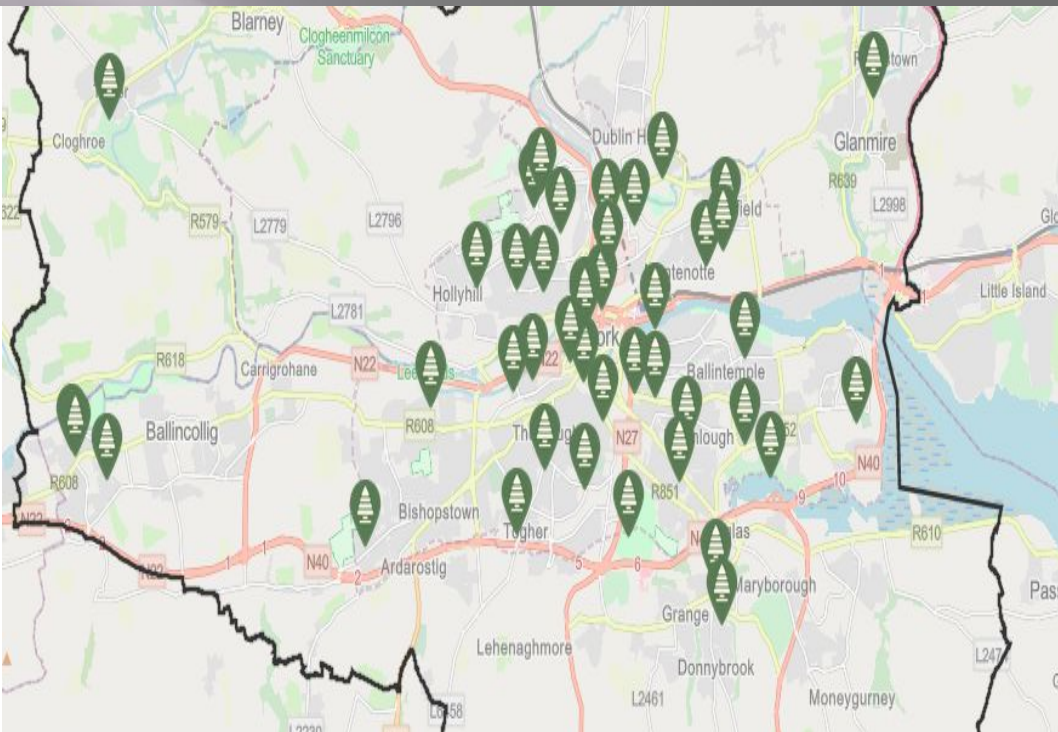
**Ballincollig Regional
Park, Placemaking
Award**




The Mangala
Ballybrack Woods Biodiversity Action Plan
2020-2024



Cork City Parks and Park Projects





**What biodiversity
actions can we take
as individuals?
Type in the Chat box**

Individual Actions for Biodiversity

- Get involved in campaigns to protect biodiversity and change the food system
- Maintain hedgerows and woodlands
- Avoid Peat based products
- Don't litter – organise beach clean ups!
- Use natural cleaning products – use bleach sparingly
- Plant native species – leave wild areas
- Use our resources wisely – Recycle and buy recycled!
- Monitor local biodiversity and record it

Individual Actions for Biodiversity

- Make myself and household aware of projects in my area that protect and restore biodiversity
- Decide on which project I will get involved with in some manner for your own enjoyment
- Re-imagine any growing space I have access to with biodiversity in mind – What is the plan/idea
- Consider biodiversity in my buying habits – particularly around my food purchases
- Decide on one favourite aspect of biodiversity and commit to learning more about it – for example, owls, bees, ponds, heritage varieties etc

Individual Actions for Biodiversity

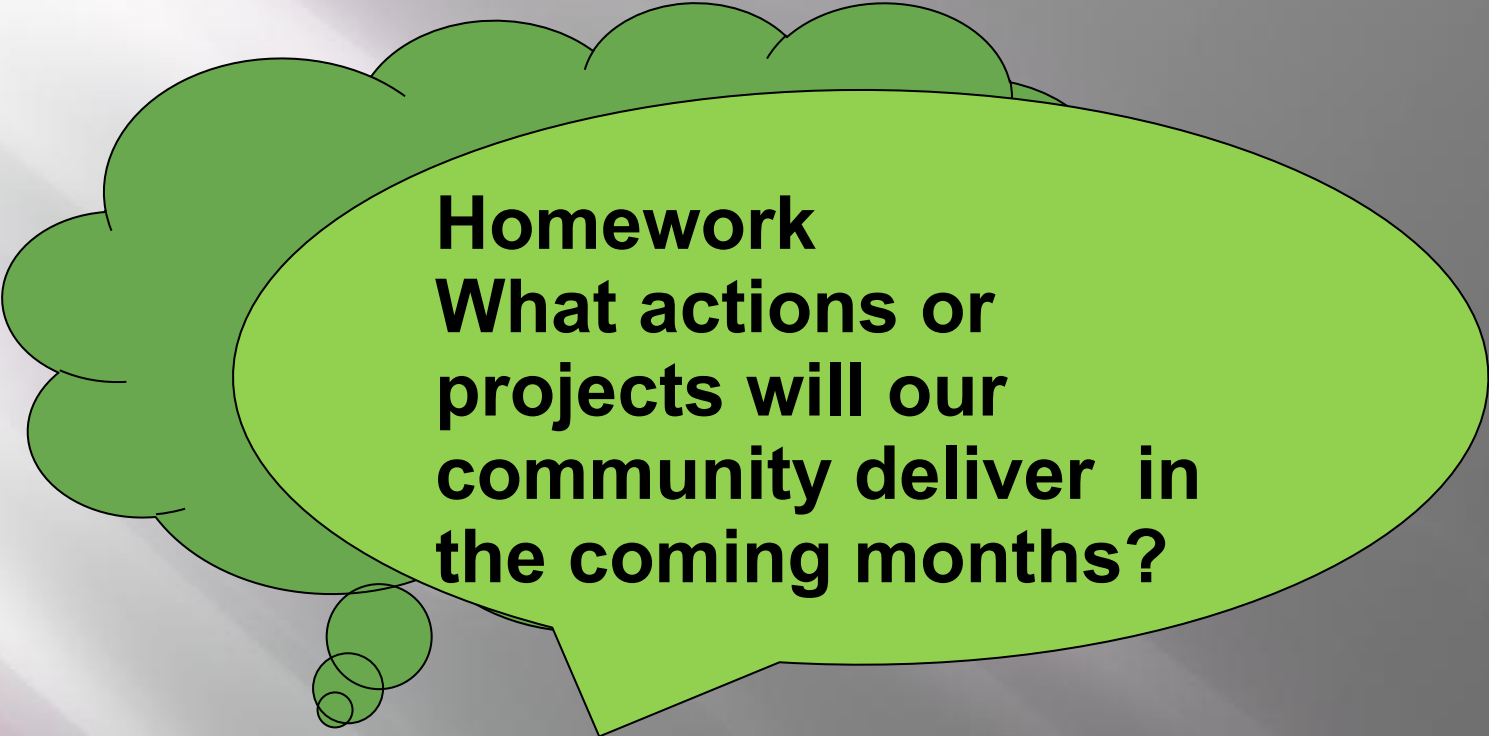
- Reduce the number of toxic substances I use in my household
- Explore short nature walks and projects close to home and visit them regularly
- Write a poem, journal piece or create an art piece that reflects your understanding of biodiversity
- Have fun with others – prepare a video to protect an insect/reptile/fish from exploitation! Explain why it needs to be preserved.
- Find some sort of representation of the living nature – a photo, a sculpture, your own drawing, a poem – and place it at home where you will see it everyday.

A green thought bubble with a black outline, containing the text "What actions could our community take for biodiversity?". The bubble has a large, rounded main body and a smaller, pointed tail at the bottom left. The background is a gradient of grey and white with diagonal light streaks.

What actions could our community take for biodiversity?

Potential Community Biodiversity Actions

- Prepare a Biodiversity Action Plan for an area
- Support Green & Blue infrastructure Plans
- Establish an Town or City Rain Garden
- Support Sustainable urban drainage systems
- Examples - Harpers island/ cape clear bird sanctuary/
Beara forest/ lets plant a forest/ dark sky reserves
- Focused interventions for specific species (pearl mussel/ natterjack toad/ corncrake/ eagles)
- Protect a local Wetlands like Clogheen Fen
- <https://www.communitywetlandsforum.ie/>
- Irish Wildlife Trust and Birdwatch Ireland
- Sustainable Water Network (SWAN)
- Join a National Conservation group www.ien.ie
- Set up a local citizen Science Project with the National Parks and Wildlife Service
- EcoUNESCO YEA or <http://www.heritageinschools.ie/>



Homework
What actions or projects will our community deliver in the coming months?

Community Climate and Biodiversity Homework

- Do you have a community vision - does it contain references to climate and biodiversity?
- Is our community supportive of Climate and Biodiversity Actions?
- What projects can we realistically achieve in the areas of;
 - Consumption and Waste
 - Food and Water
 - Energy and Travel
 - Biodiversity and Nature Based Solutions
- Use Worksheet One to identify your most impactful project.
- In Session 6 we will have 45 minutes to complete Worksheet Two for one or two selected projects.

Assessing potential projects

	<u>Climate / biodiversity benefit</u>		
	Small effect	Medium effect	Large effect
Low cost / easy			
Medium			
High cost / difficult			

Theory of Change - Clarify priorities by defining our project with goals and the path to reach them

Define Problem
What is the problem we are trying to solve? What do we want to change?

Define Project (Action Plan)
*What steps are needed to reach our goals?
Who is going to do what, where, when, how? (incl.. information and supports we will need)*

Define Solution
What are we wanting to achieve? How will we know when we got there?

Right now ...
• .
• .
• .
• .
• .
• .
• .
• .
• .
• .

First of all ...
• .
• .
• .
• .
• .
• .
• .
• .
• .
• .
• .
• .
• .
• .
• .
• .

After that ...
• .
• .
• .
• .
Once that is done ...
• .
• .
• .
• .
• .
• .
• .
• .
• .
• .

In the end ...
• **What will it look like?**
• .
• .
• .
• .
• .
• .
• .
• .

What is already there ...
Others have done ...
• .
• .
• .
• .
• .
• .
• .

In order to be successful we are going to need ...
• .
• .
• .
• .
• .
• .
• .
• .
• .
• .
• .

We are going to stay motivated/connect/celebrate by ...
• .
• .
• .
• .
• .
• .
• .
• .

Eat the Elephant in Chunks!