Community Climate Action Programme

Cork Environmental Forum

Comhairle Cathrach Chorcaí
Cork City Council

CORK CITY PPN
PUBLIC PARTICIPATION NETWORK

Water

Cork Community Climate Action Programme

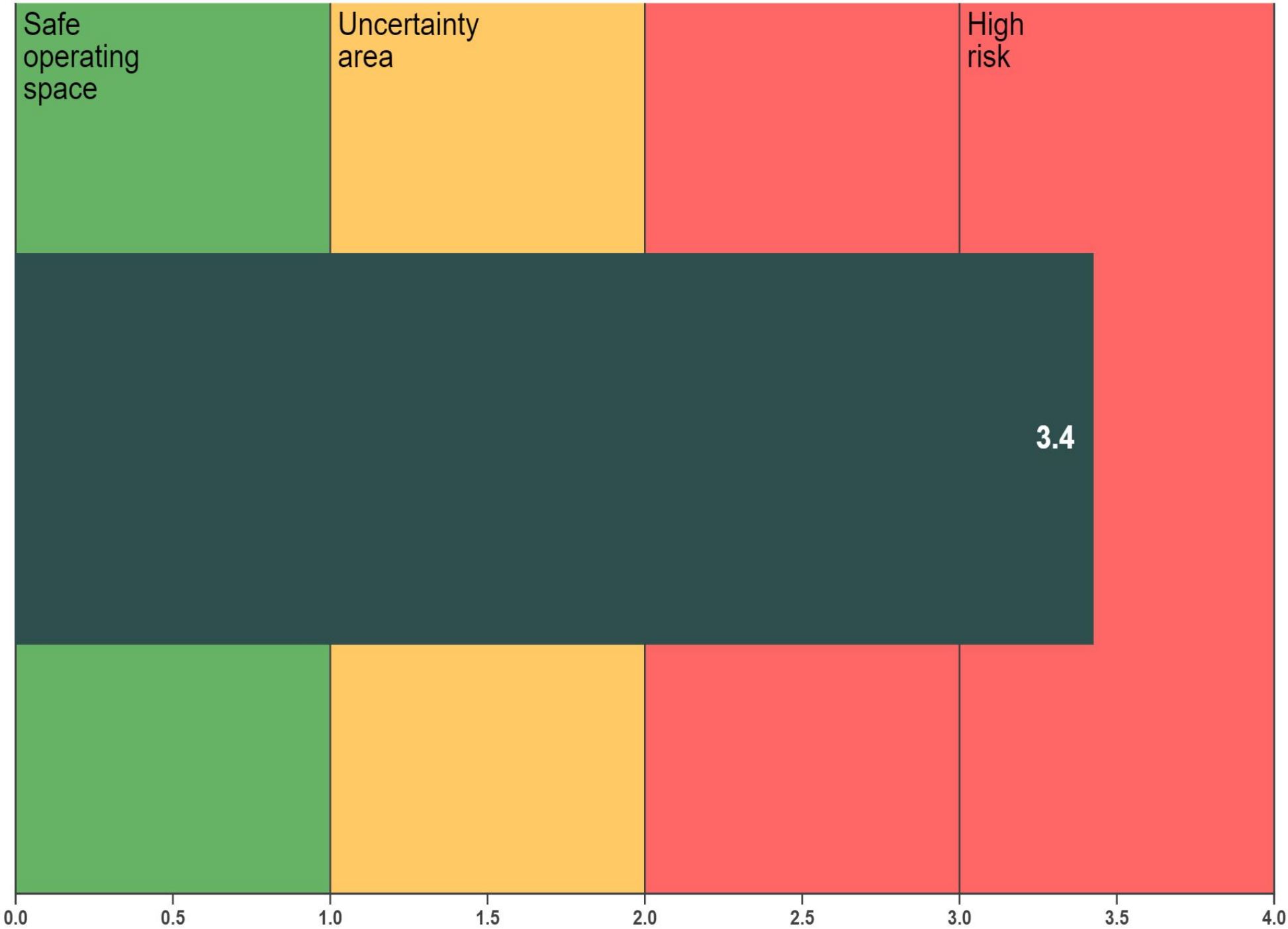
1. Intro & Community resources
2. Consumption and Waste
3. **Food & Water**
4. Energy & Travel
5. Biodiversity & Nature-based solutions
6. Refining ideas & actions

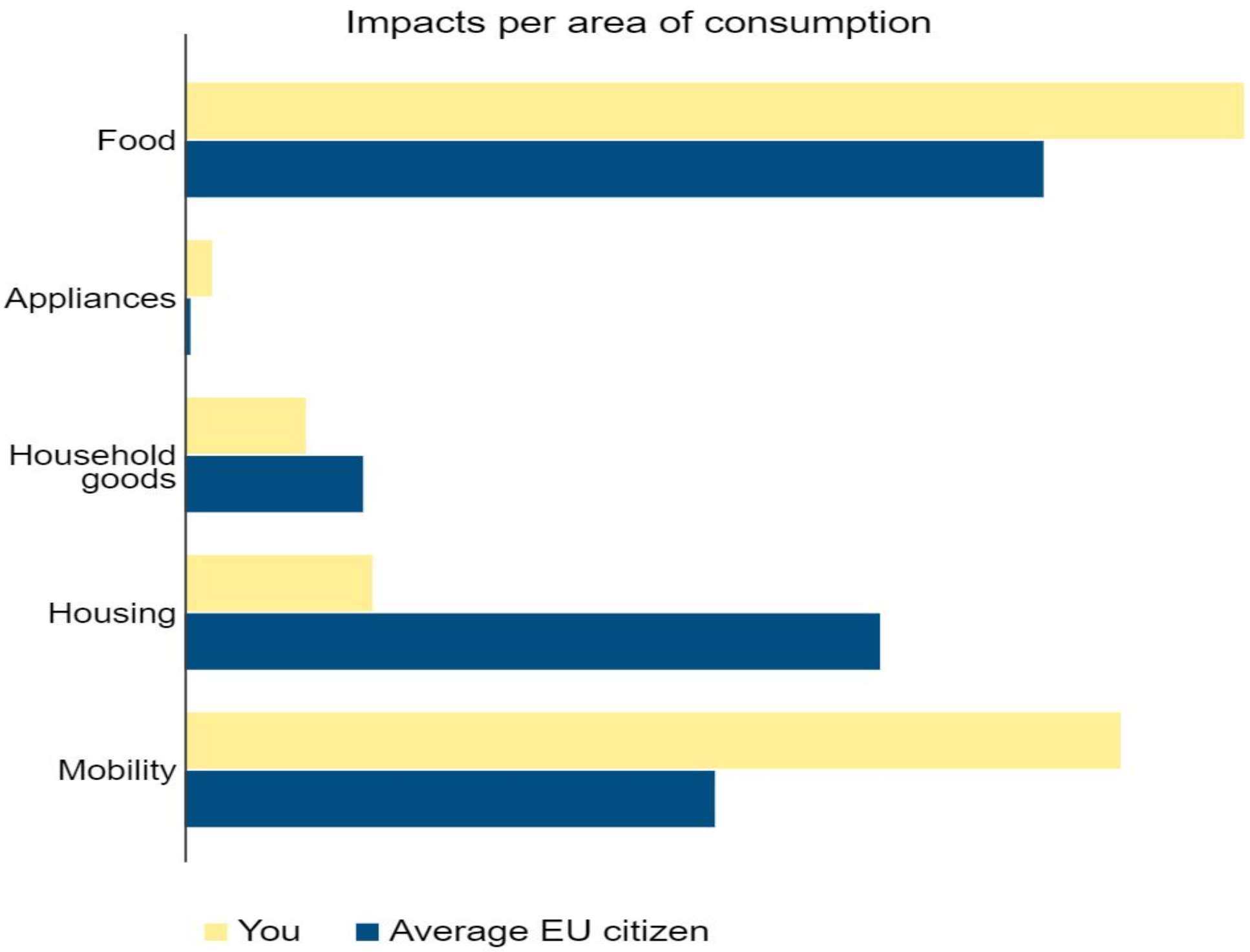
Review of the main topics covered in the previous week and answer any questions.

Environmental impact
Ecological footprint

At present humanity needs 1.5 planets' worth of resources and waste absorption

Ireland uses 3.5 planets worth


Safe operating space
Uncertainty area
High risk
3.4
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0


Impacts per area of consumption
Food
Appliances
Household goods
Housing
Mobility
You
Average EU citizen

Water Module Outcomes

By the end of this session you will be able to;

Explain the causes of freshwater biodiversity loss

Describe freshwater ecosystem services

Know the status of a local river / lake.

Describe the components of our water footprint

Identify ways to reduce water use

Identify ways to reduce water pollution

Water Session Outline

Water quantity – sectors and seasonality

Water quantity problems – floods/droughts

Water quality – sources/causes of pollution

Freshwater Ecosystems and biodiversity

Freshwater ecosystem services

Water Services – drinking water and wastewater

Water Management – catchment management

Local community water resources and actions

6 CLEAN WATER AND SANITATION

ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL

2.3 BILLION PEOPLE LIVE IN WATER-STRESSED COUNTRIES (2018)

BETWEEN 1970 AND 2015, NATURAL WETLANDS SHRANK BY 35%

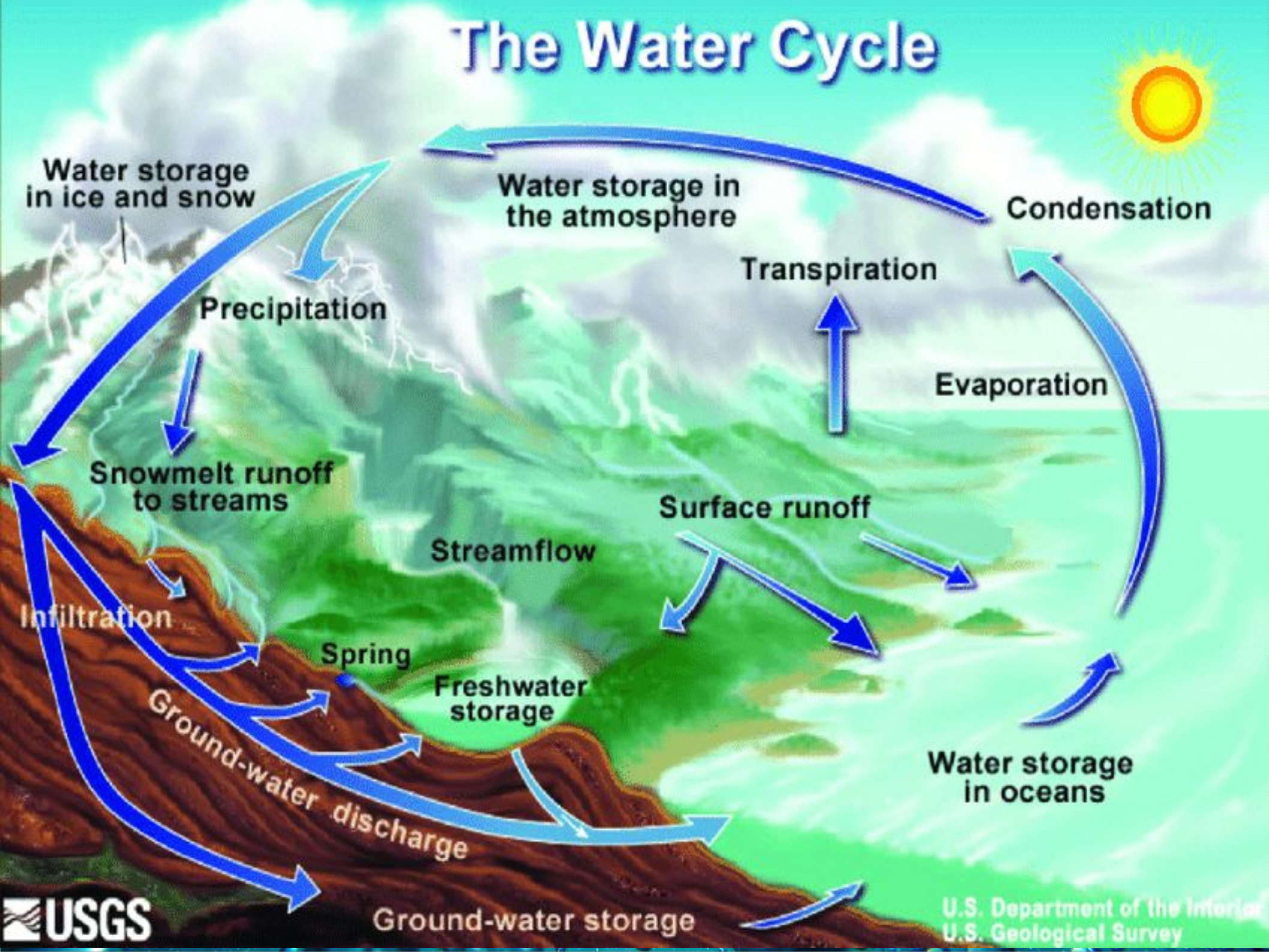
3 x THE RATE OF FOREST LOSS

129 COUNTRIES ARE NOT ON TRACK TO HAVE SUSTAINABLY MANAGED WATER RESOURCES BY 2030

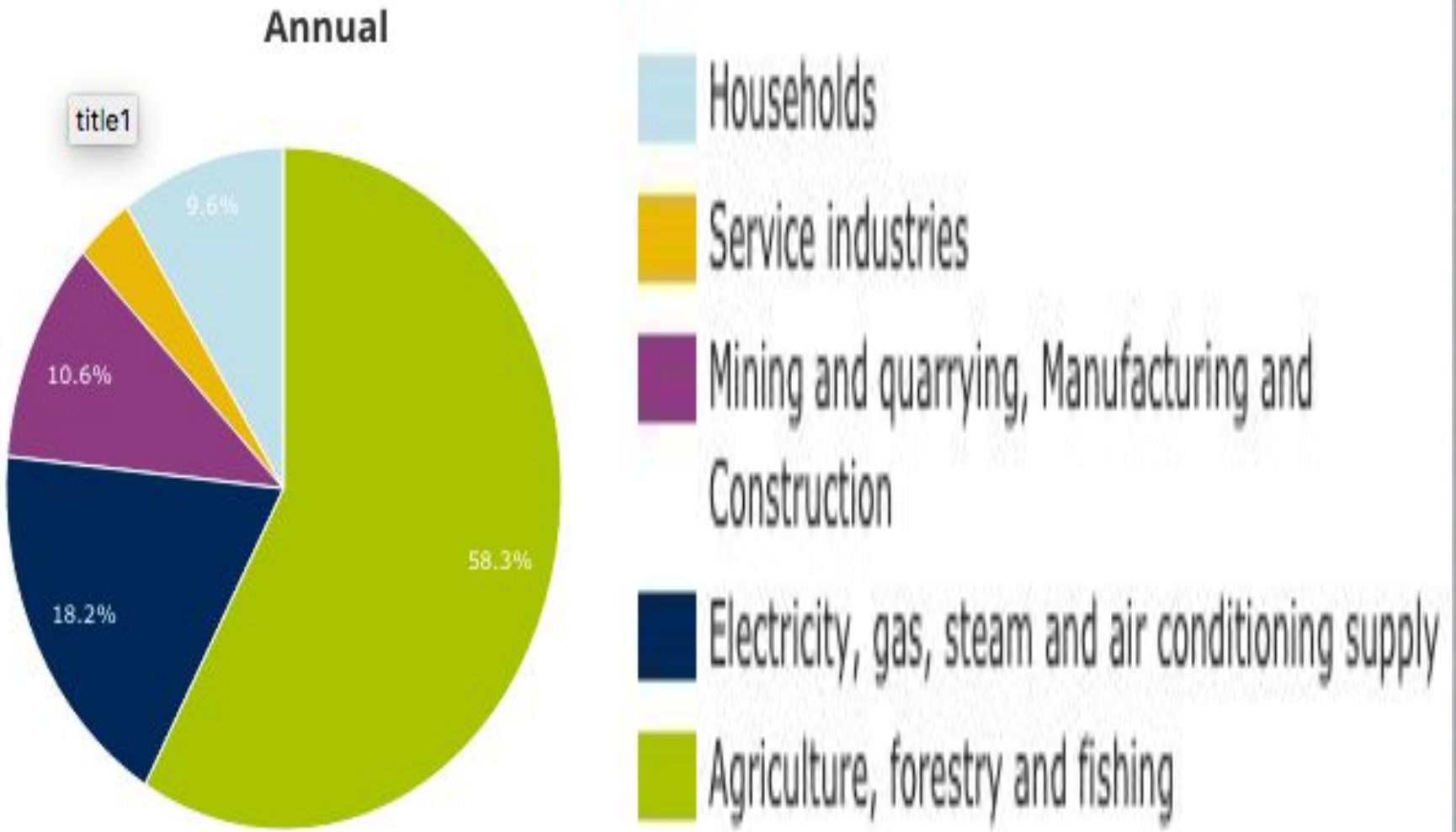
CURRENT RATE OF PROGRESS NEEDS TO DOUBLE

Targets for SDG 6 - Ensure availability and sustainable mgt. of water & sanitation for all.

- Safe and affordable drinking water for all.
- Sanitation & hygiene for all
- Improve water quality
- Increase water-use efficiency
- Integrated water resources management
- Protect and restore water-related ecosystems, rivers lakes, wetlands, mountains, forests, and aquifers;
- Expand international cooperation
- Participation of local communities

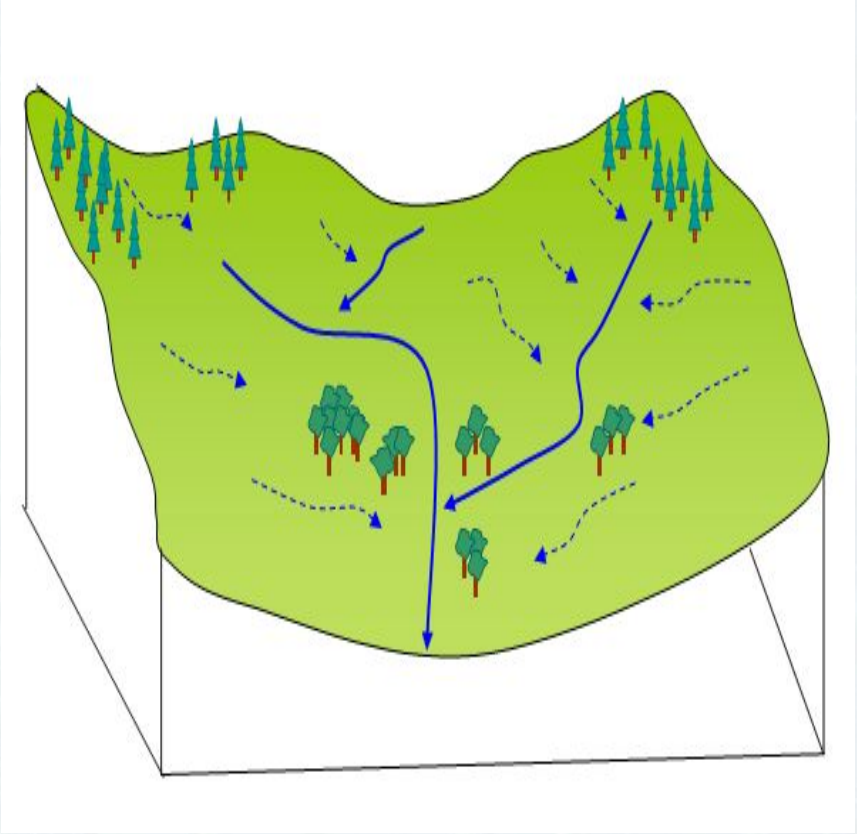

The Water Cycle
Water storage in ice and snow
Water storage in the atmosphere
Condensation
Transpiration
Precipitation
Evaporation
Snowmelt runoff to streams
Surface runoff
Streamflow
Infiltration
Spring
Freshwater storage
Ground-water discharge
Water storage in oceans
Ground-water storage
USGS
U.S. Department of the Interior
U.S. Geological Survey

Europe Water Use by sector, 2017



W. Resource Mgt - ‘Catchment area’

- A catchment is a community related by water
- We are dependent on each other to keep our water clean for our health, business, agriculture, leisure and biodiversity



Water Directives - WFramework & UWWD

Monitors, Reports and drafts environmental objectives and measures for water bodies

Ensures policies, regulations and resources are in place & develops a River Basin Management Plan and Programme of Measures

Coordinates local authorities communities, and stakeholders to implement River Basin Mgt Plan

Drinking Water Treatment and Supply

Cork City Water Source and Supply

Drinking Water Supply

Key Issues in Ireland (source EPA)

A **safe and secure** water supply

Free of harmful bacteria e.g. *E.coli* **by disinfection** (chlorine, UV)

Minimising harmful **by-products** from disinfection process (THMs)

Eliminating **lead** from pipework

Reduction of **leakage**

Preventing **pesticides** entering water near abstraction points

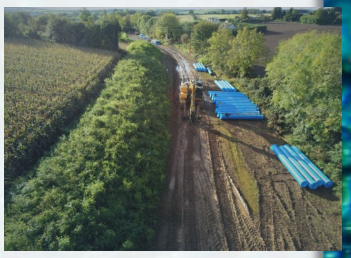
Ensuring a **secure supply**

Functioning treatment plants

Major Upgrades to Cork City Water Supply in 2021 (source Irish Water)

€40m to improve security of supply and reduce leakage

1. New Western Trunk Watermain

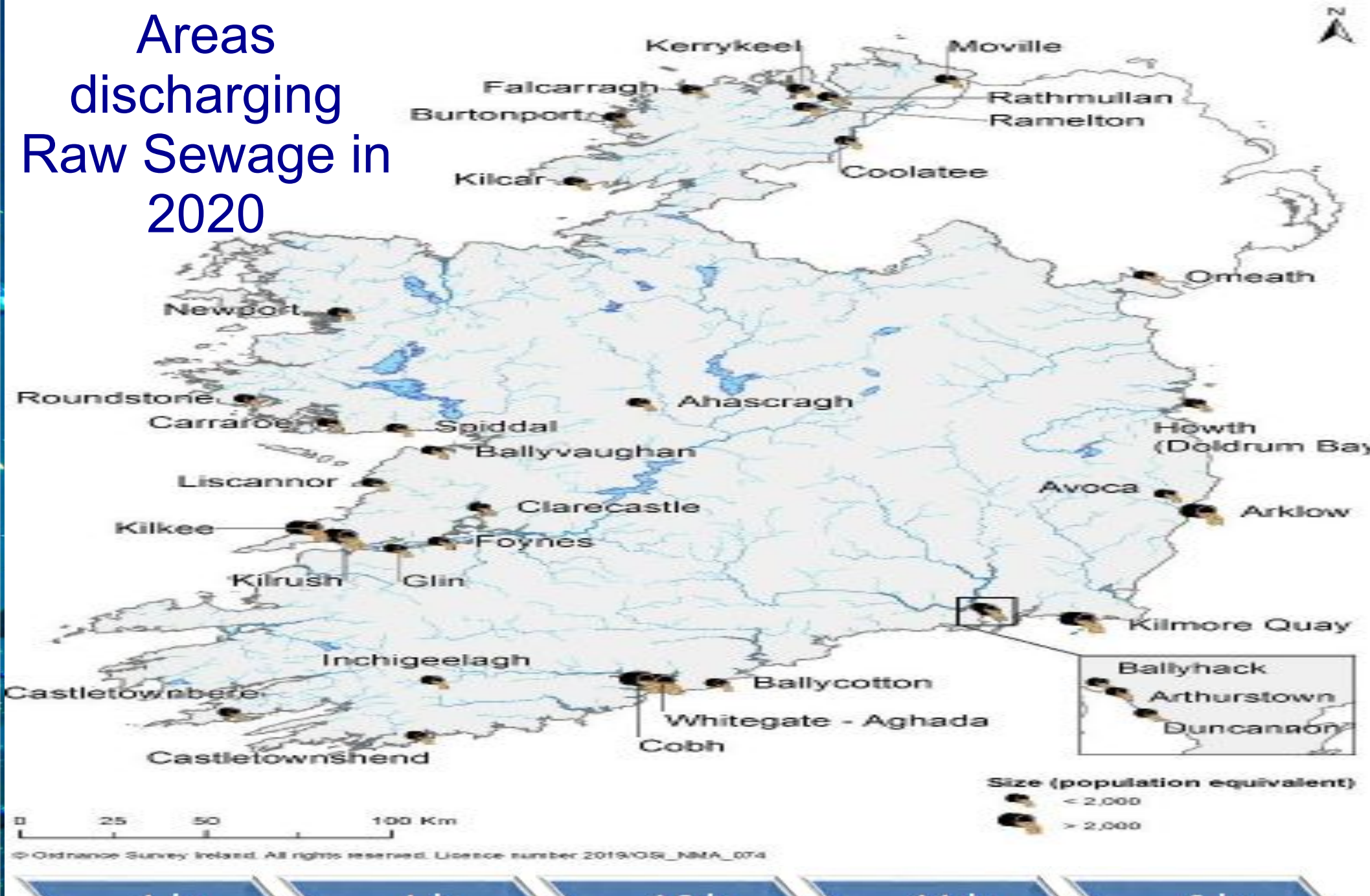


2. Eastern Strategic Trunk Watermain Upgrade

3. Lee Road Water Treatment Plant Upgrade

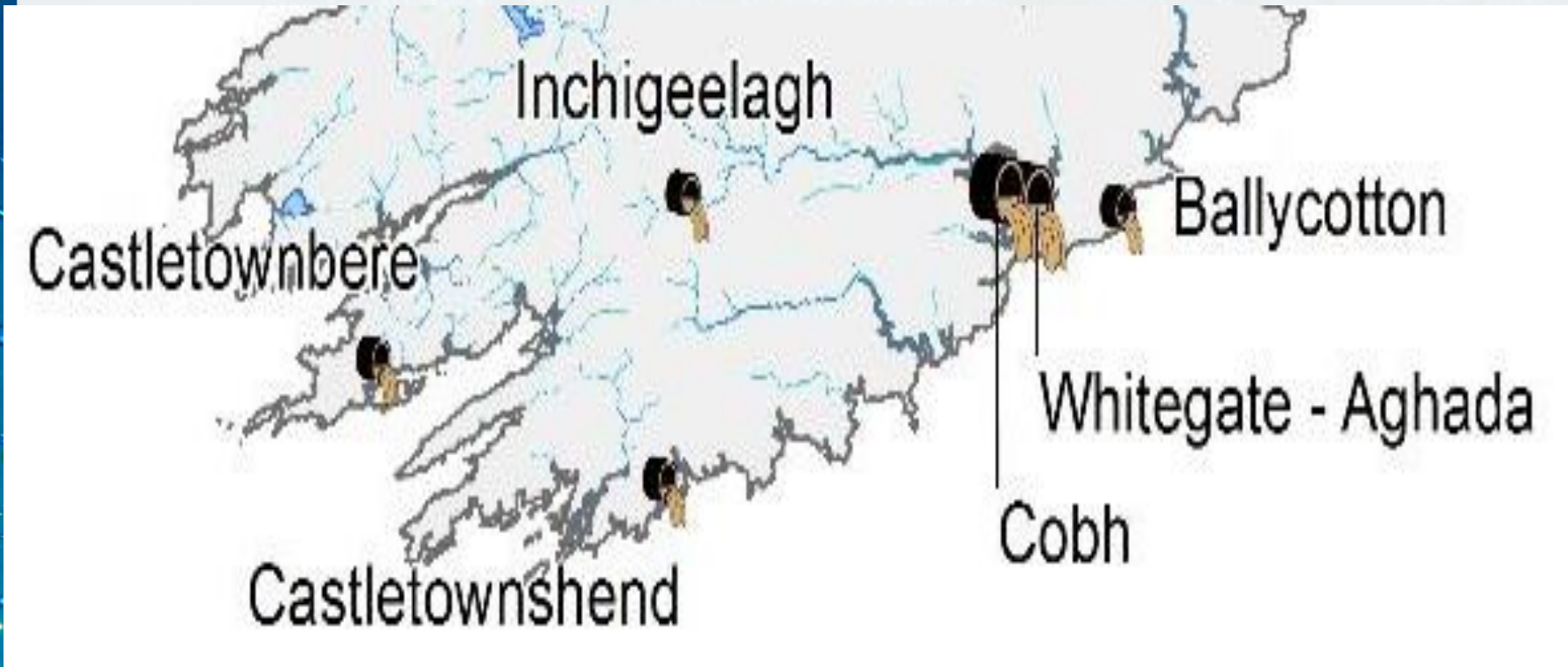
Where Does your waste water go?

Areas discharging Raw Sewage in 2020



1 in 2020 → 1 in 2021 → 16 in 2022 → 11 in 2023 → 6 in 2024

Places in Cork discharging Raw Sewage in 2020



- Contracts for treatment plants for Castletownbere, Inchigeela, Whitegate-Aghada, Ballycotton & Castletownsh in 2017/2018
- Castletownbere, Whitegate-Aghada and Inchigeela now granted Planning Permission and works are proceeding
- New plants will comply with UWWTD, Bathing and Shellfish Directives

Urban Wastewater Treatment Directive

UWWTD Highlights

Regulates discharge of wastewater to environment

All member states **must comply** with discharge quality requirements

Sets out the level of treatment to be provided (primary, secondary etc.)

Final deadline for compliance was **15 years ago**!

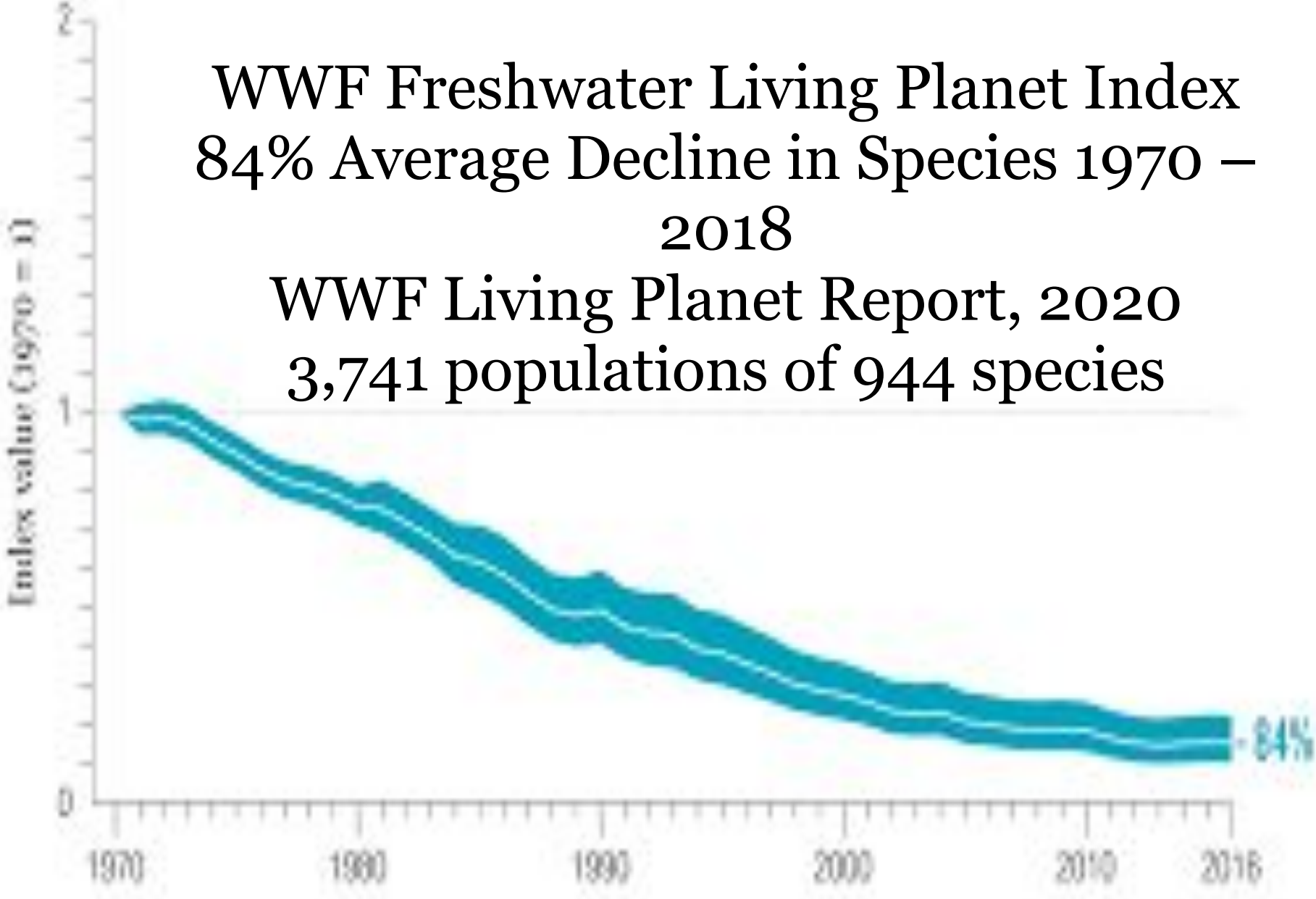
Ireland is currently discharging raw sewage from **34 towns and villages**

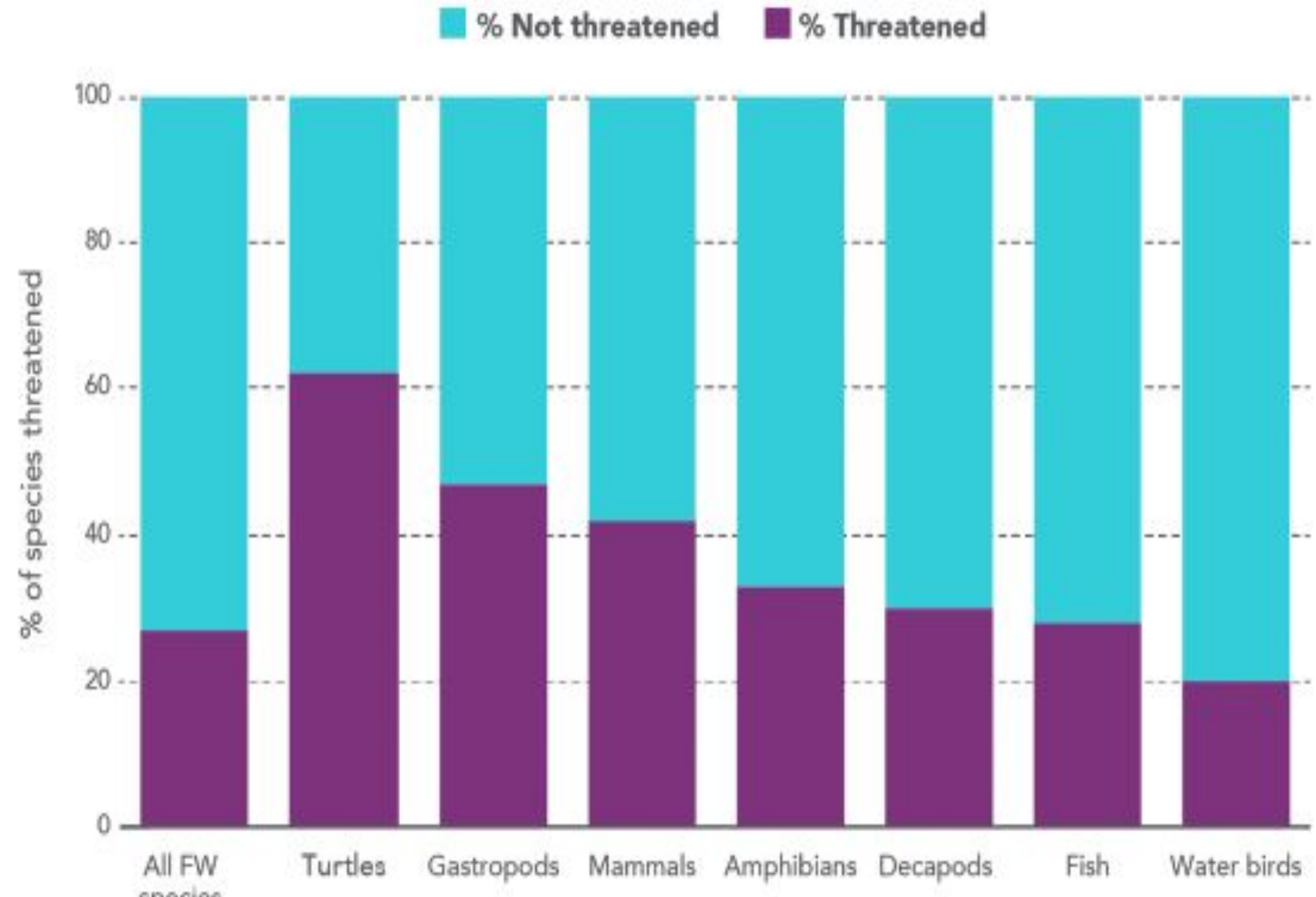
Urban-Waste-Water-Treatment-in-2020-report.pdf (epa.ie)

Key Wastewater Issues

- **Aging infrastructure**
- P**opulation growth** and industry
- Health and environment damage
- Inadequate collection of **storm water** & rain intensity increase
- **Non-performing plants** cause water pollution
- Major source of **phosphate**)
- Sediment impacts **shellfish** and low oxygen affect **pearl mussels**
- Generate sewage **sludge** (waste)
- **Energy intensive** process

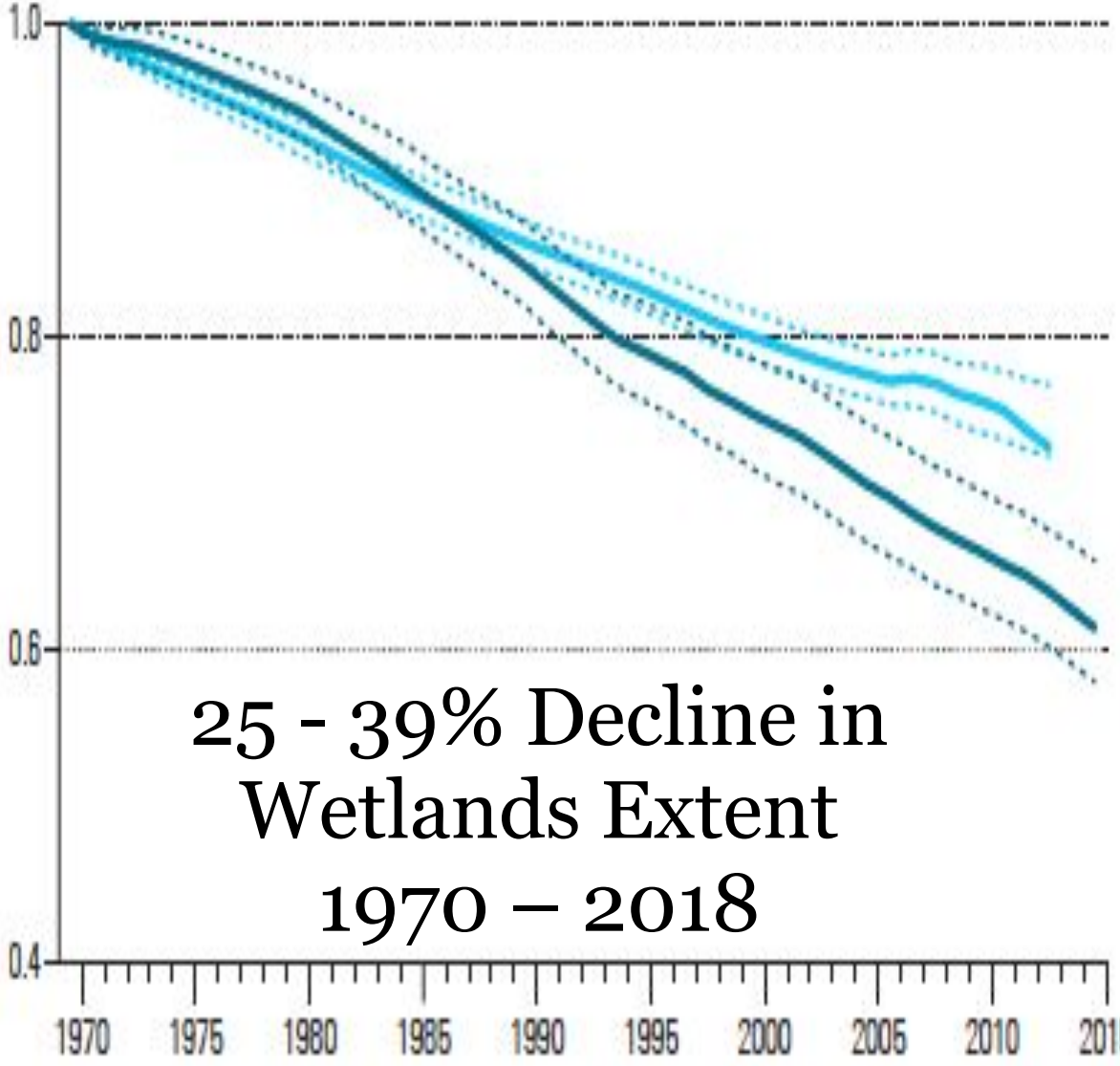
WWF Freshwater Living Planet Index
84% Average Decline in Species 1970 – 2018
WWF Living Planet Report, 2020
3,741 populations of 944 species





% of Freshwater Species going extinct, WWF 2019

Ask the group to identify the main causes of biodiversity loss in your local freshwater ecosystems
Groups for 7 minutes



25 - 39% Decline in Wetlands Extent 1970 – 2018

Figure 1: Wetland Extent Trends (WET)
Index relative to 1970 for global natural inland and marine/coastal wetlands (Darrah et al., 2019)[5].

Key

- Global Natural Inland WET index
- Confidence limits
- Global Natural Marine/Coastal WET index
- Confidence limits

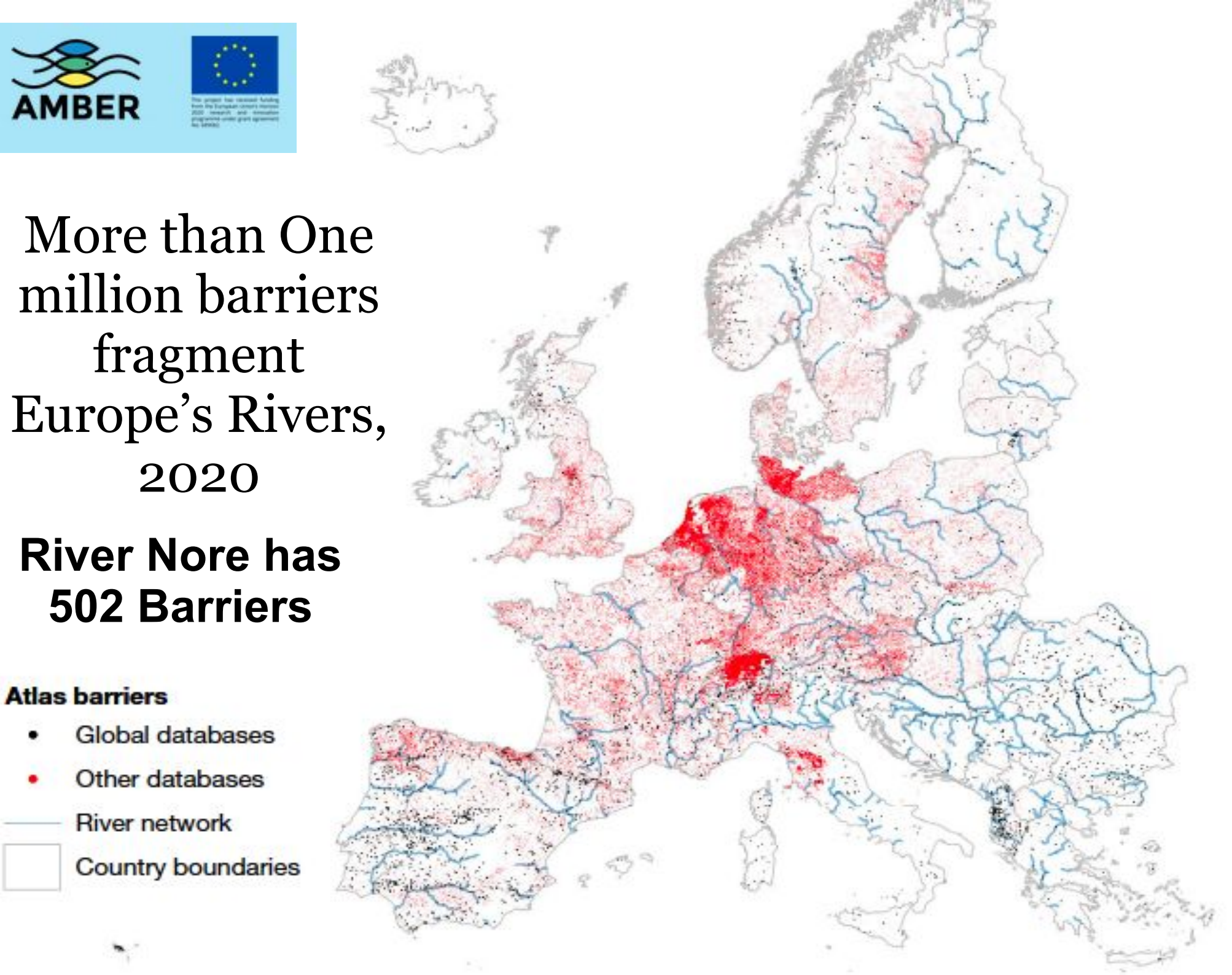
Wetlands lost 3x faster than forests

10% loss in Ireland 1990-2006, Irish Wetlands Survey

AMBER

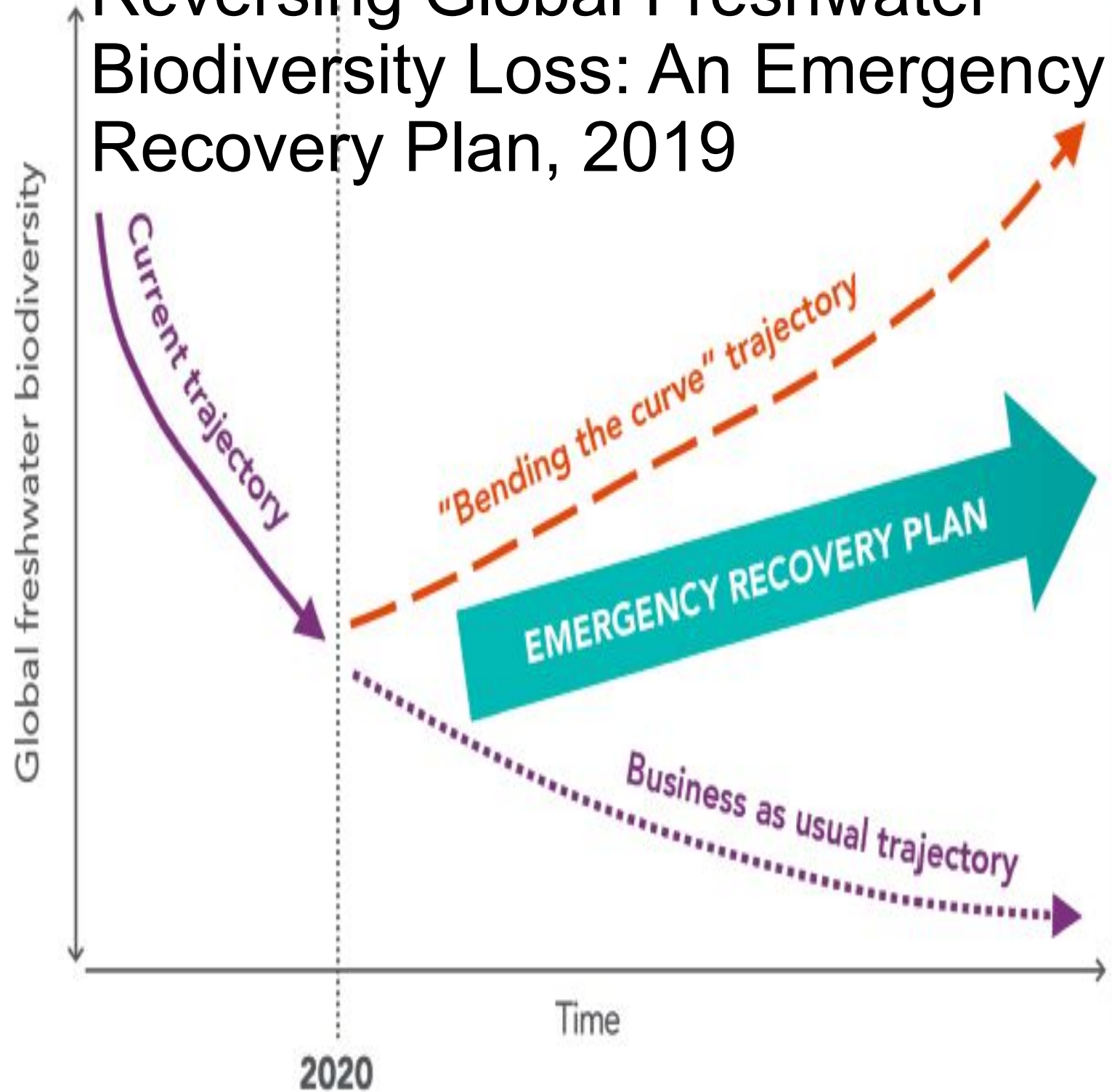
More than One million barriers fragment Europe's Rivers, 2020

River Nore has 502 Barriers



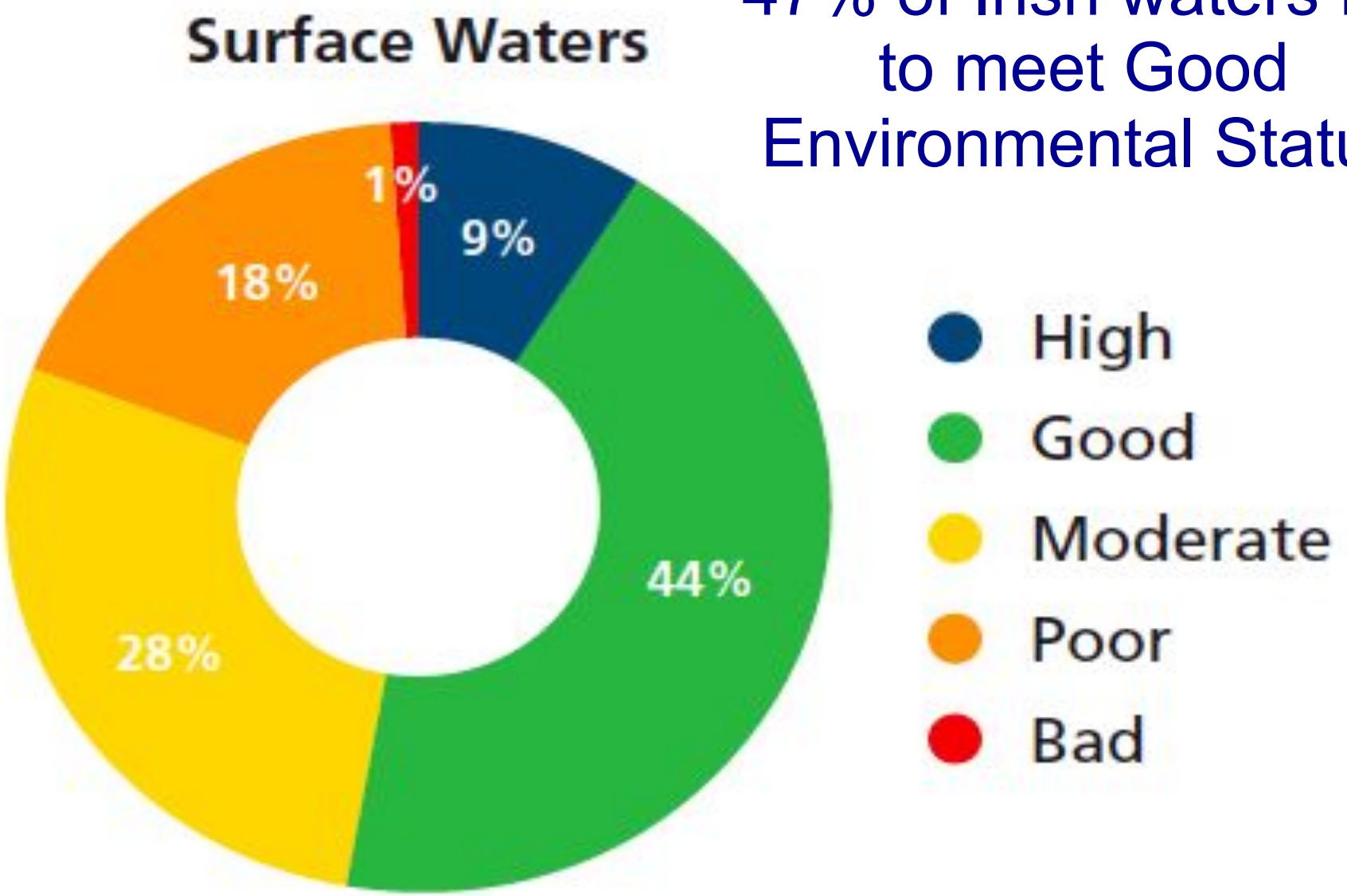

ASK YOUR COUNCIL
TO GO PESTICIDE-FREE
TAKE ACTION
A
SINGLE
drop of
herbicide can
breach the
drinking water
limit in a small
stream for
30 km

Reversing Global Freshwater Biodiversity Loss: An Emergency Recovery Plan, 2019



1. Accelerate implementation of environmental flows
2. Improve water quality
3. Protect and restore critical habitats
4. Manage exploitation of species and riverine aggregates
5. Prevent and control non-native species invasions
6. Safeguard and restore freshwater connectivity

Figure 7.1 Surface water overall ecological status, 2013-2018 (Source: EPA)



47% of Irish waters fail to meet Good Environmental Status

Figure 7.9 Significant pressures on Ireland's aquatic environment (Source: EPA)

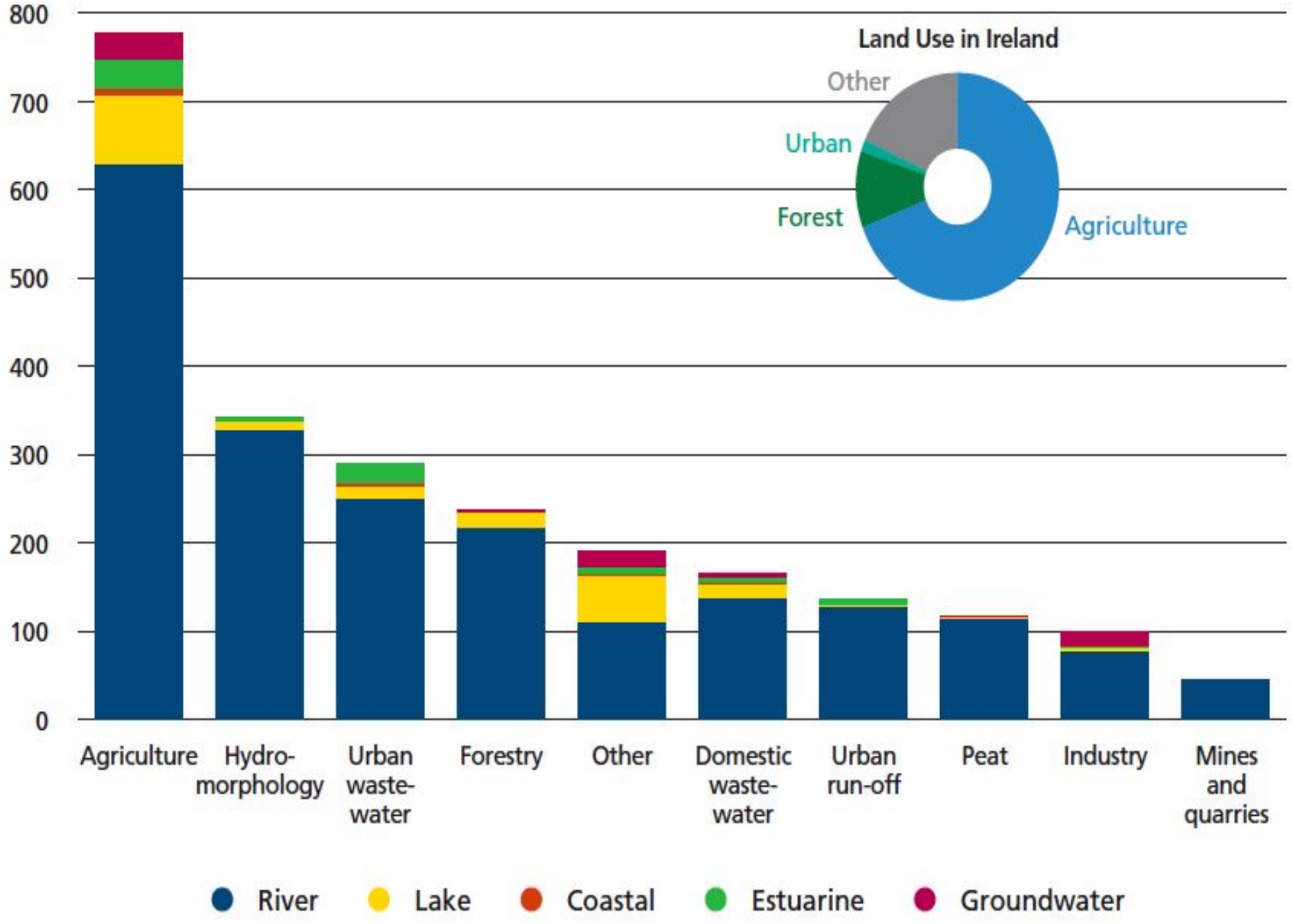
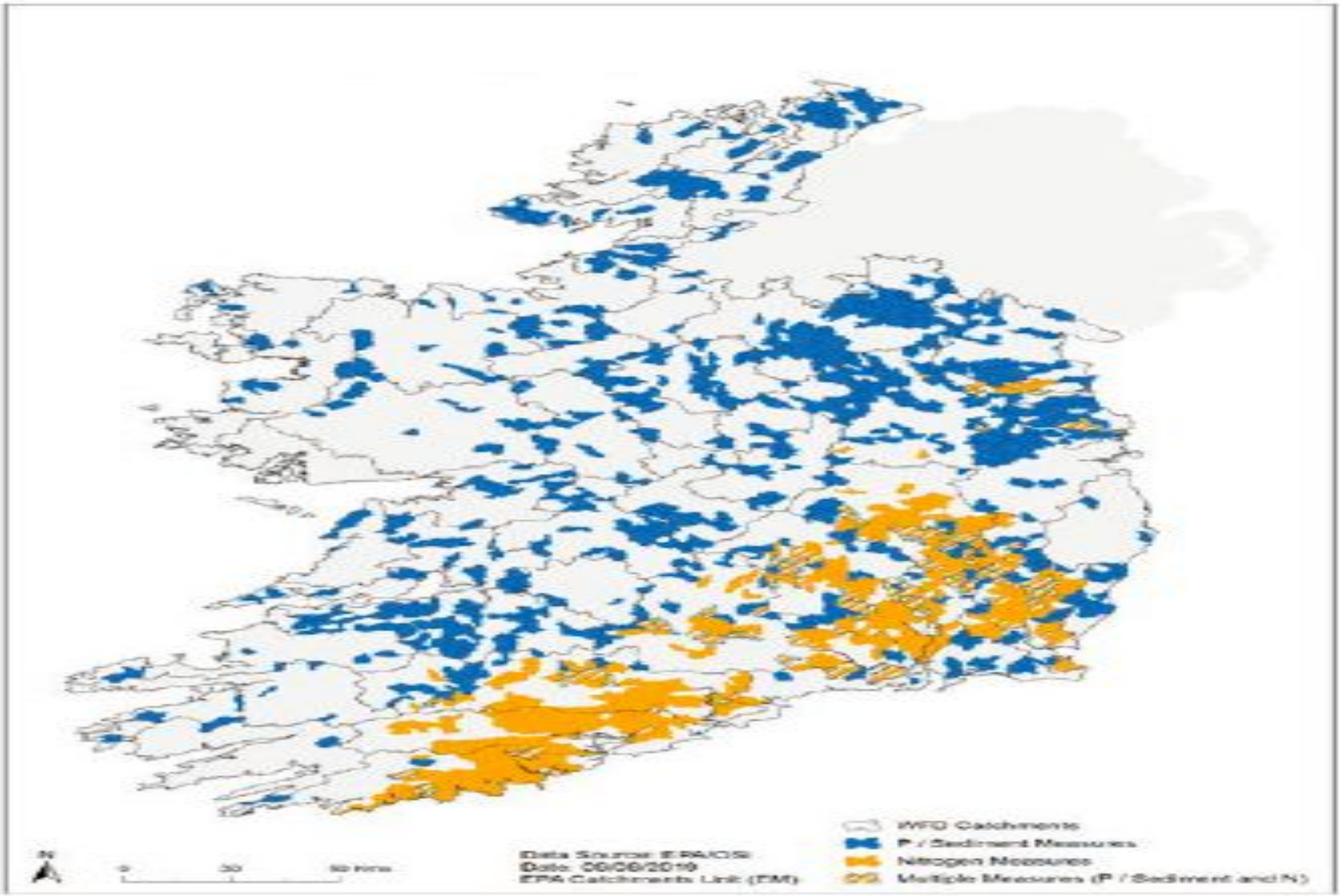
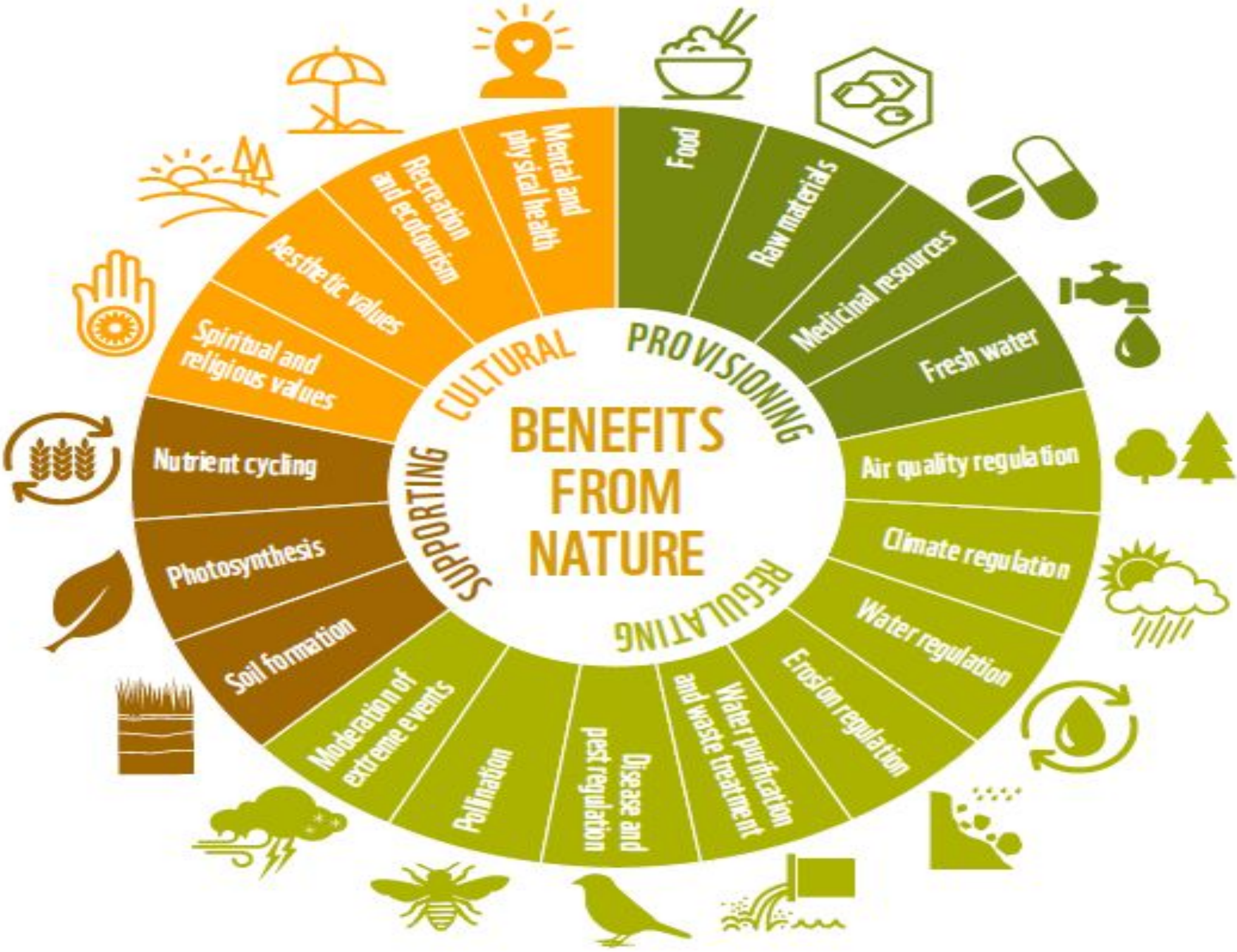


Figure 7.12 Locations where agricultural measures are needed to target nitrogen (N) and phosphorus (P) losses from farmland (Source: EPA)




BENEFITS FROM NATURE
CULTURAL
PROVISIONING
REGULATING
SUPPORTING
Mental and physical health
Recreation and ecotourism
Aesthetic values
Spiritual and religious values
Food
Raw materials
Medicinal resources
Fresh water
Air quality regulation
Climate regulation
Water regulation
Erosion regulation
Water purification and waste treatment
Disease and pest regulation
Pollination
Moderation of extreme events
Soil formation
Photosynthesis
Nutrient cycling

Water Footprinting – Three types of water consumption

Blue + **Green** + **Grey**

Freshwater

Rainfall

~ Polluted water

In the following slide identify which are the correct water footprint for the different foods and products.
Groups - 7 min

Please correctly arrange the Litres of Water needed for the following?

Item	Litres
1 kg bread	15,500
1 kg cheese	859
1 kg beef	5,000
1 kg bananas	1,300

Item	Litres
1 kg ordinary paper	20
A desktop computer	400,000
A car	11,000
1 kg recycled paper	2,000
1 pair jeans	20,000

Actual Litres of Water needed to produce these items

Item	Litres
1 kg bread	1,300
1 kg cheese	5,000
1 kg beef	15,500
1 kg bananas	859

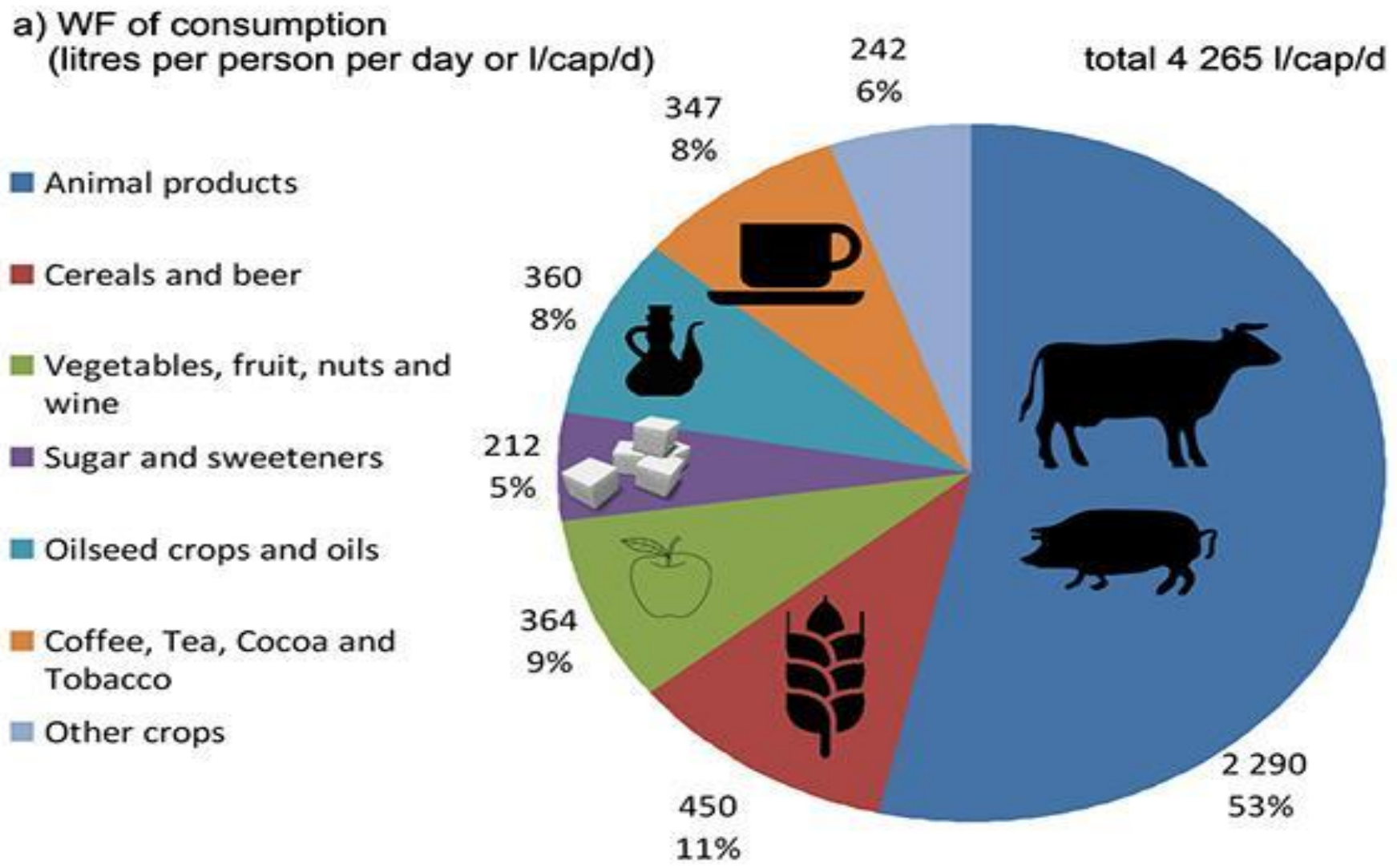
Item	Litres
1 kg ordinary paper	2,000
A desktop computer	20,000
A car	400,000
1 kg recycled paper	20
1 pair jeans	11,000

THE IRISH WATER FOOTPRINT

A person's **water footprint** is the total volume of water used directly or indirectly to produce the goods and services we consume.

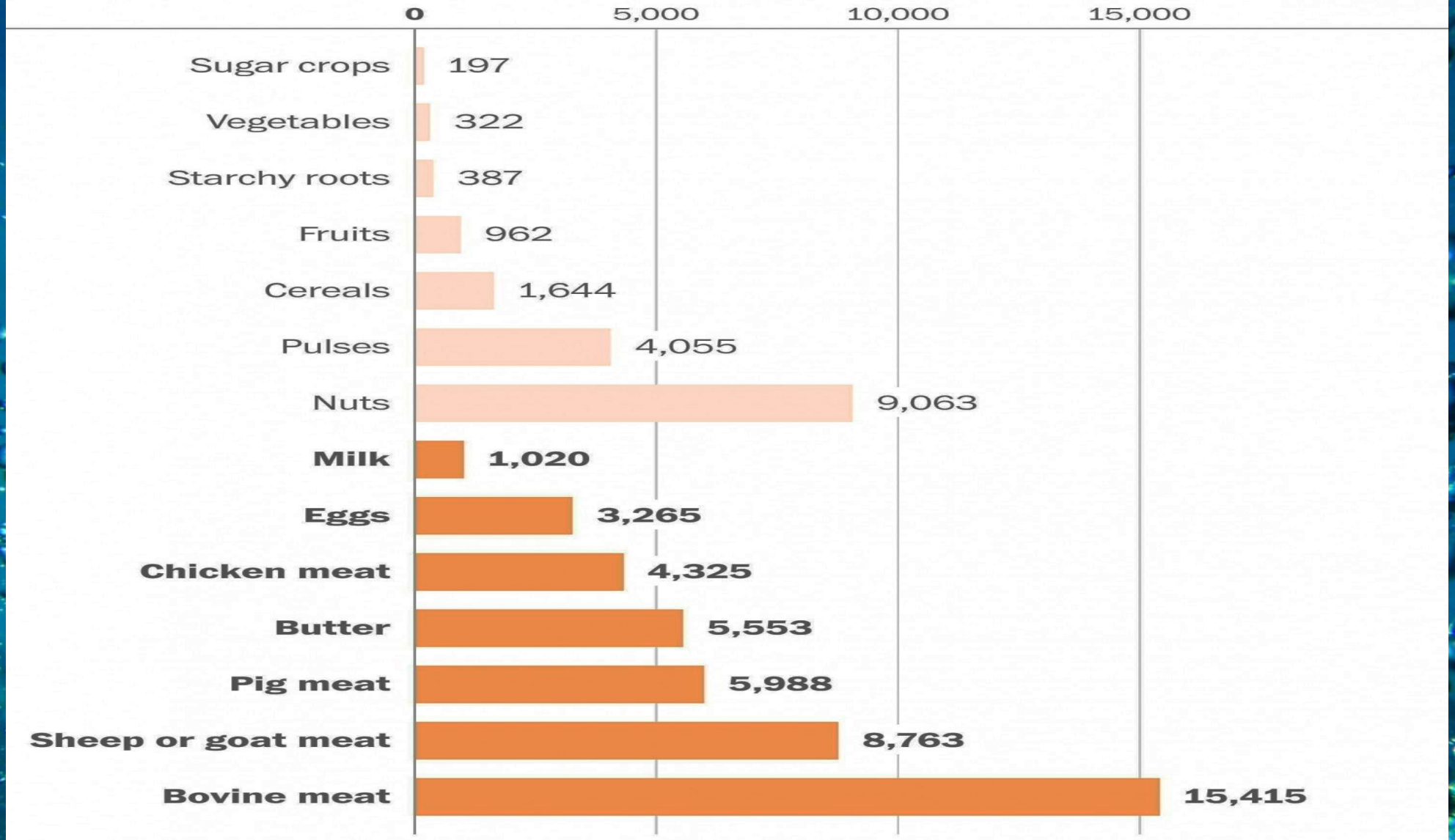
Only 3% is direct water use

Water Footprint - 170 L direct + 3400 L indirect



You need 48 times as many liters of water to produce the same amount of beef as veggies

The graph below shows the average amount of water in liters used to produce a kilogram of crop and animal products.



Source: Hoekstra (2012)

RACHEL PREMACK/THE WASHINGTON POST

What actions could you or your community group take around water?

5 minutes - in the chat box

CCAP Individual Water Actions

- Calculate your personal water footprint
- Consume products with a lower water footprint
- Take part in beach/river clean-ups.
- Mend leaking taps/toilets in the home
- Find out about your local water supply
- Join a local or national water NGO
- Talk to your local area water protection officer

Individual Cleaning Water Actions

- Try using less washing powder and dishwasher tablets
- Use eco-friendly washing powder, soaps, shampoos and household cleaners
- Do those clothes really need washing?
- Wash the car at home and use a bucket rather than a hosepipe
- Take care of what you pour down the drain

Individual Garden Water Actions

- Keep the grass 5cm long to reduce evaporation
- Use mulch where appropriate
- Use a watering can rather than a hose pipe
- Collect rainwater for watering the garden
- Water the garden in the morning or late evening.
- Don’t use any gardening chemicals
- Avoid replacing your garden with a driveway

Save Our Bride Otters

www.saveourbrideotters.com ph: 087 1031698

Local Authority Waters Programme

vibrant communities | catchment assessment | healthy waters

catchments.ie

Sustainable Water Network

SWAN

Community Water Actions

- Organise community stream/river/coastal clean-ups.
- Protect and restore a local water body.
- Find out about your local water supply
- Ask you local authority water community officer to speak to your group
- Educate others to reduce use of herbicides / pesticides in the community