

Reconnecting Europe's Broken Rivers

How can people help?

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Swansea University



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WWF Dam Removal Goes to the Alps - Session 2.2 5th May 2021

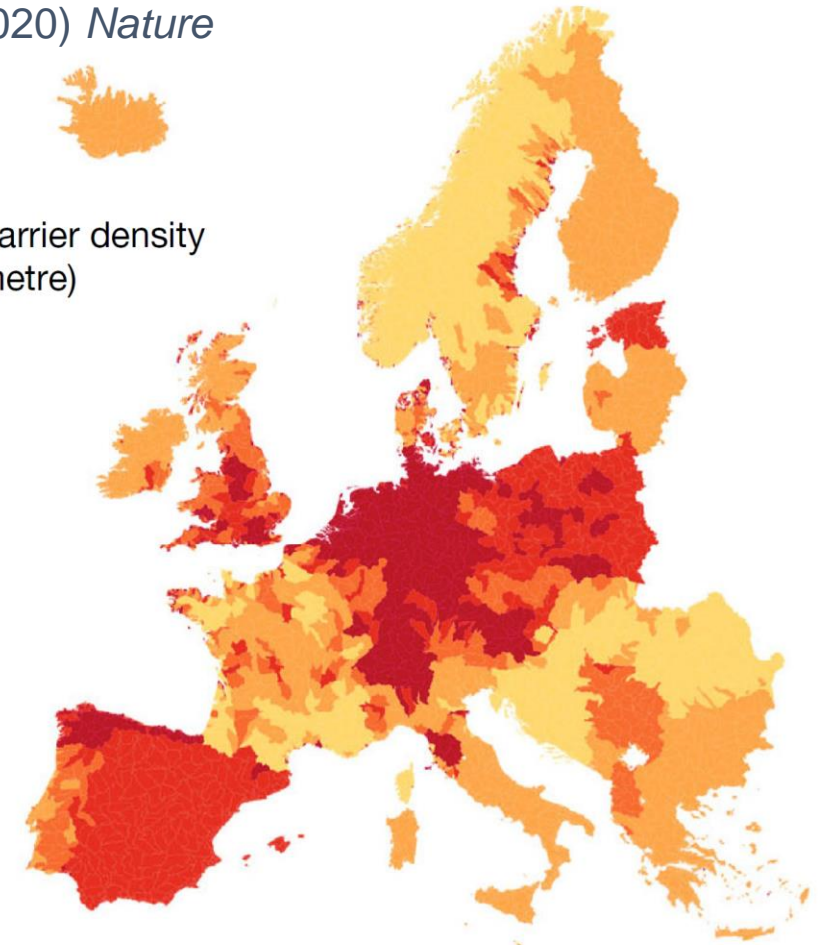
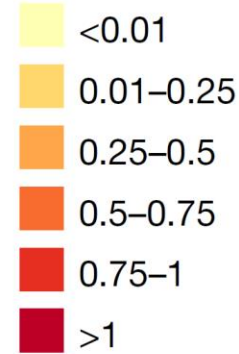
The Challenge

+1.2M barriers

**+25K rivers
free by 2030**

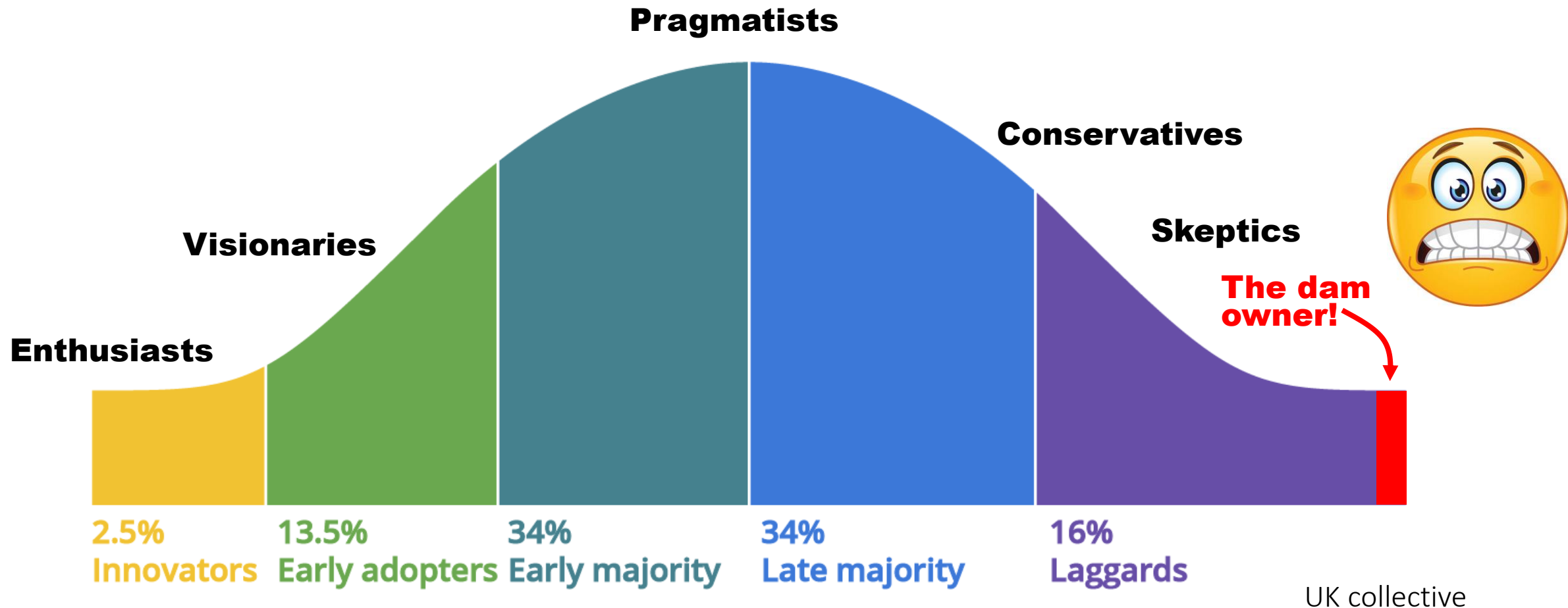
Belletti et al (2020) *Nature*

Field-estimated barrier density
(barriers per kilometre)

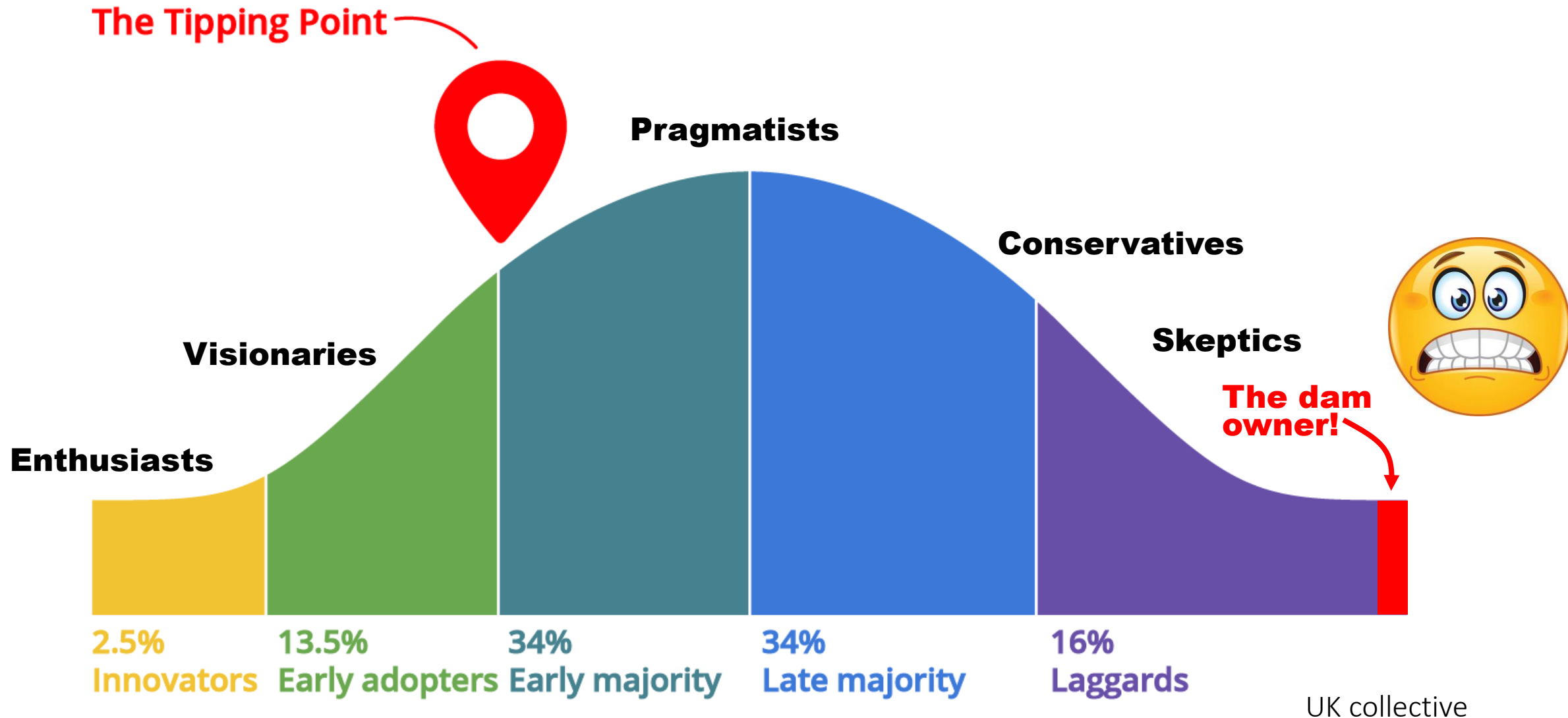


0.74 barriers/km

Understanding the barriers to remove barriers



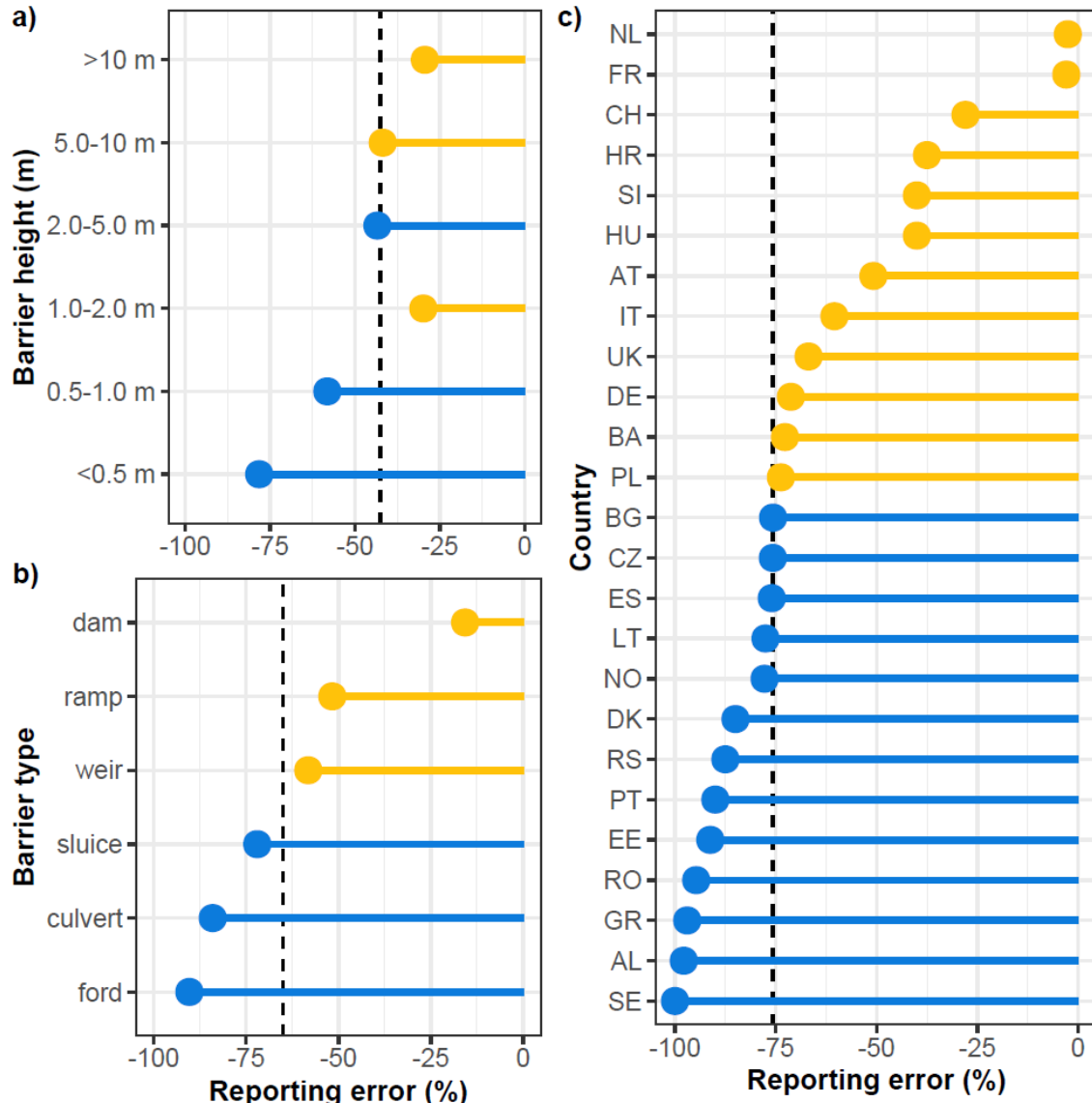
Understanding the barriers to remove barriers



How can People Help?



1. Locating missing barriers



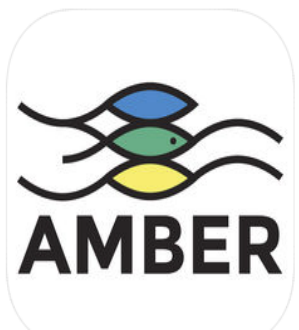
~600K

barriers are missing!

...but we know in which countries they are...

....and also what type they are (small)

AMBER Barrier Tracker <https://amber.international/>



FREE, no adverts

12 languages: Danish, Dutch, English, French, German, Italian, Polish, Portuguese, Spanish, Slovenian and Ukranian & Welsh. Soon in Norwegian & Swedish

All your records are downloadable...

View all **App recorded barriers** and the **Atlas data**



2. Locating obsolete barriers

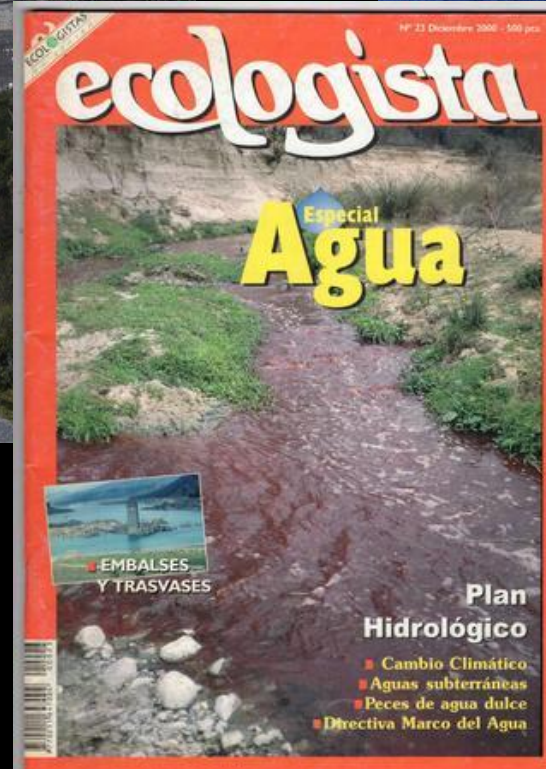
~156,000 obsolete
barriers

**Let's go & find
them!**



AMBER Barrier Tracker
12,483 barriers
39 countries

One big dam cancelled



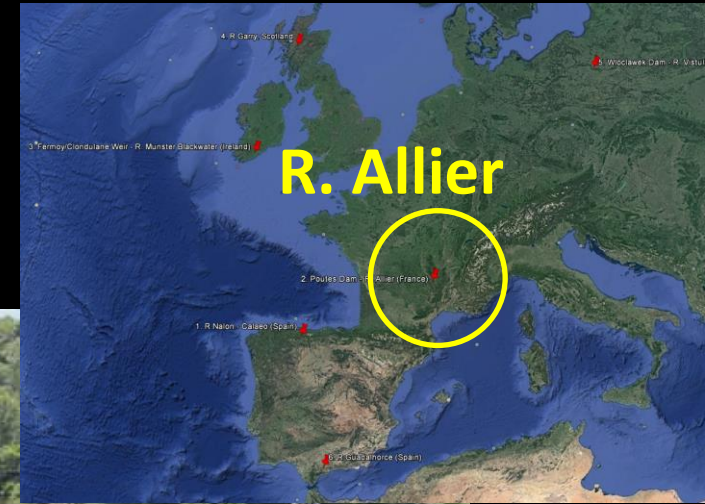
One big dam modified



17 m height
3Km reservoir
Blocks 42 % salmon habitat

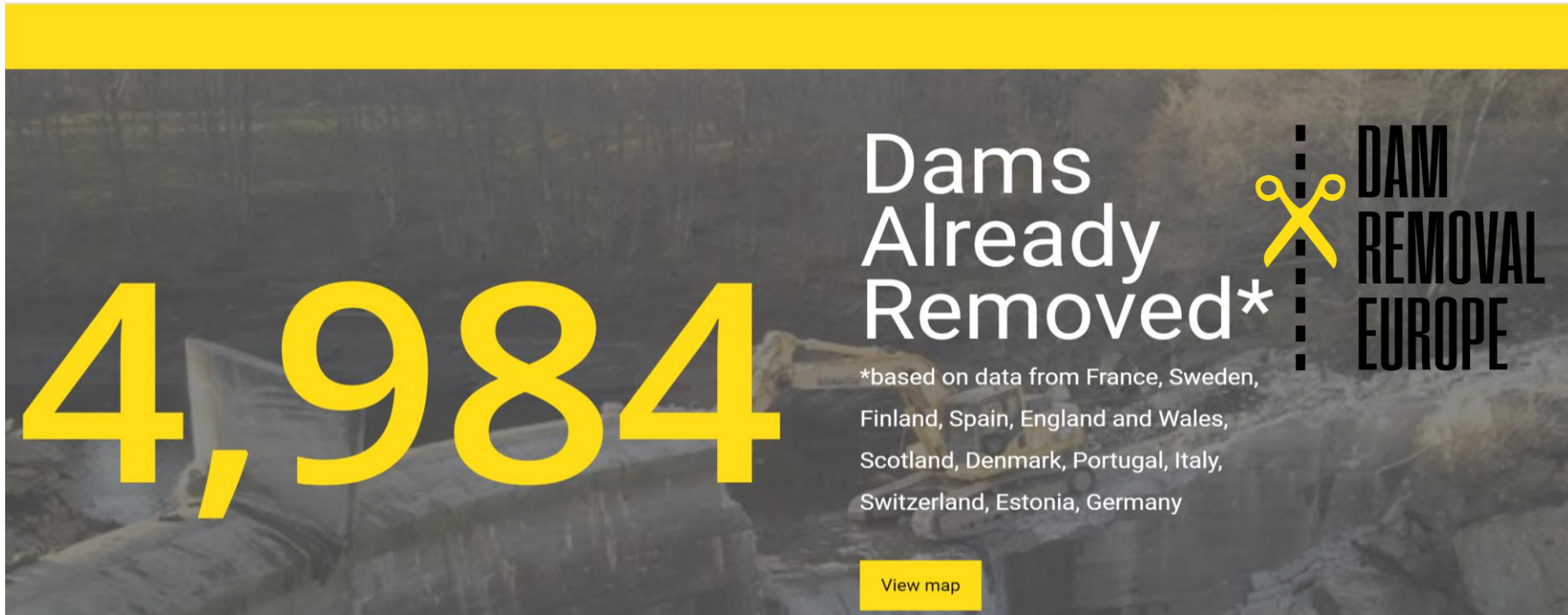


4 m height
300m reservoir,
Sediment gates & new fishpass
New turbines, ~90% of electricity



4. Crowdfunding

5K barriers removed



4,984

**Dams
Already
Removed***

**DAM
REMOVAL
EUROPE**

*based on data from France, Sweden, Finland, Spain, England and Wales, Scotland, Denmark, Portugal, Italy, Switzerland, Estonia, Germany

[View map](#)

~25 as
part of
AMBER



R. Trend (DK)



5. Supporting impactful science

More than one million barriers fragment Europe's rivers

Overview of attention for article published in Nature, December 2020

nature
International weekly journal of science



Article


More than one million barriers fragment Europe's rivers

<https://doi.org/10.1038/s41586-020-3005-2>

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 Check for updates

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Impact score
After 3 months

Top 1%

of all research outputs
of similar age

To help inform policy



EU BIODIVERSITY STRATEGY
Bringing nature back into our lives

 *"Making nature healthy again is key to our physical and mental wellbeing and is an ally in the fight against climate change and disease outbreaks. It is at the heart of our growth strategy, the European Green Deal, and is part of a European recovery that gives more back to the planet than it takes away."*

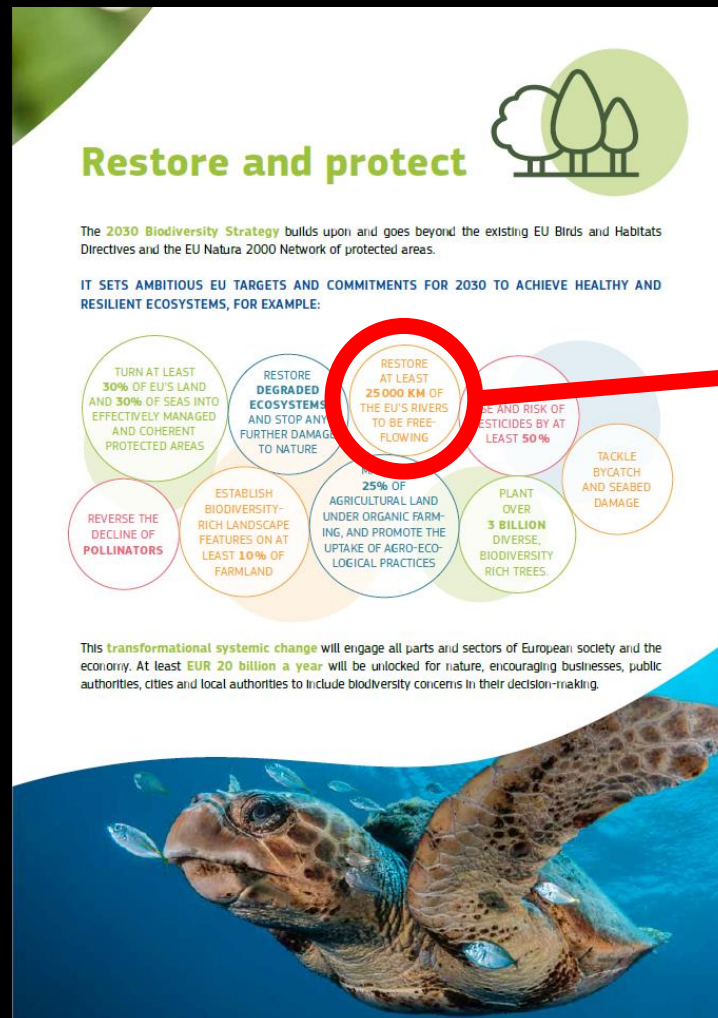
Ursula Von der Leyen, President of the European Commission

Global challenges like **climate change**, the unprecedented **loss of biodiversity**, and the spread of devastating **pandemics** are sending a clear message: It's time to **fix our broken relationship with nature**.

As the world emerges from the COVID-19 crisis, it's more important than ever to build a more **resilient** society. The **post-2020 global biodiversity framework** will play a vital role in creating a more **sustainable future**.

BIODIVERSITY is the variety of life on Earth, including plants, animals, fungi, micro-organisms, and the habitats in which they live. This web of living things forms the ecosystems that underpin all economies and societies.

Environment



Restore and protect

The **2030 Biodiversity Strategy** builds upon and goes beyond the existing EU Birds and Habitats Directives and the EU Natura 2000 Network of protected areas.

IT SETS AMBITIOUS EU TARGETS AND COMMITMENTS FOR 2030 TO ACHIEVE HEALTHY AND RESILIENT ECOSYSTEMS, FOR EXAMPLE:

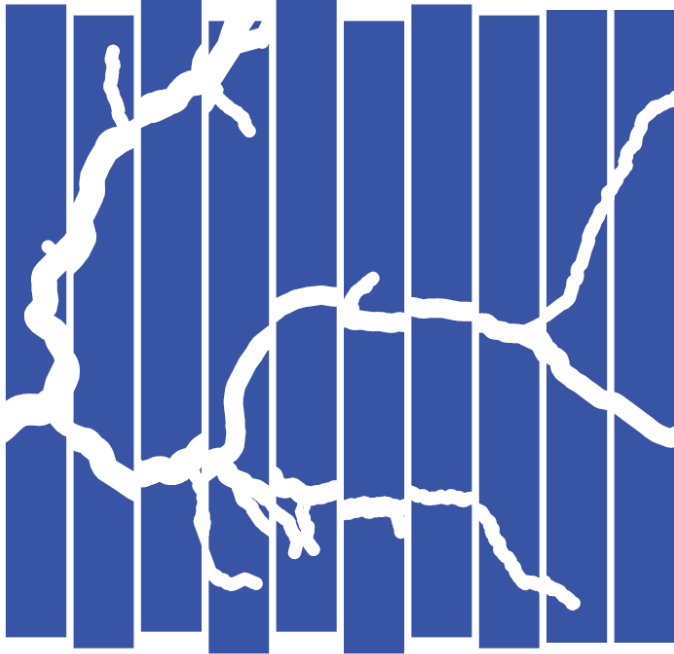
- TURN AT LEAST **30% OF EU'S LAND AND 30% OF SEAS** INTO EFFECTIVELY MANAGED AND COHERENT PROTECTED AREAS
- RESTORE **DEGRADED ECOSYSTEMS** AND STOP ANY FURTHER DAMAGE TO NATURE
- RESTORE AT LEAST **25 000 KM OF THE EU'S RIVERS** TO BE FREE-FLOWING
- REDUCE AND RISK OF PESTICIDES BY AT LEAST **50%**
- TACKLE BYCATCH AND SEABED DAMAGE
- PLANT OVER **3 BILLION DIVERSE, BIODIVERSITY RICH TREES**
- 25% OF AGRICULTURAL LAND UNDER ORGANIC FARMING, AND PROMOTE THE UPTAKE OF AGRO-ECOLOGICAL PRACTICES
- ESTABLISH **BIODIVERSITY-RICH LANDSCAPE FEATURES** ON AT LEAST **10% OF FARMLAND**
- REVERSE THE DECLINE OF **POLLINATORS**

This **transformational systemic change** will engage all parts and sectors of European society and the economy. At least **EUR 20 billion a year** will be unlocked for nature, encouraging businesses, public authorities, cities and local authorities to include biodiversity concerns in their decision-making.

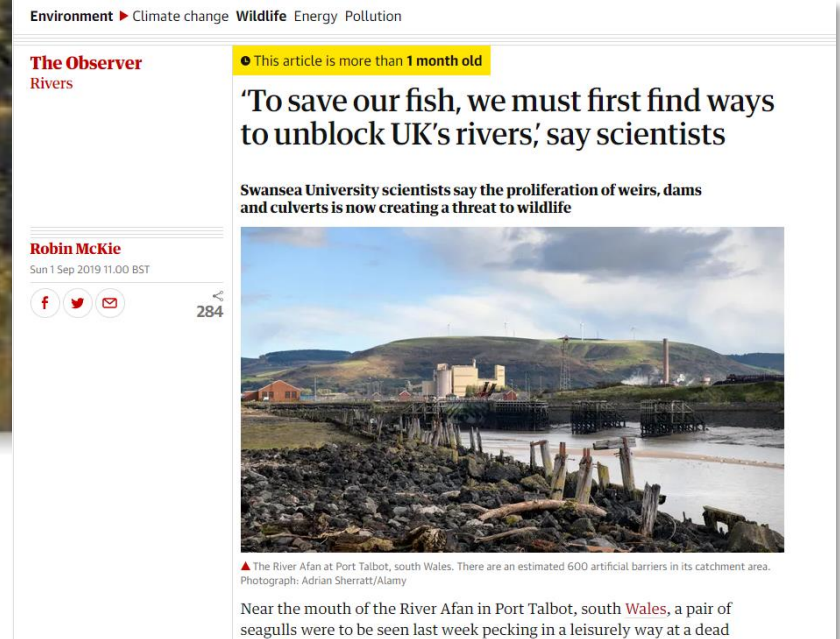
Restore at least **25 000 km** of EU's rivers to be free-flowing

6. Becoming citizen scientists

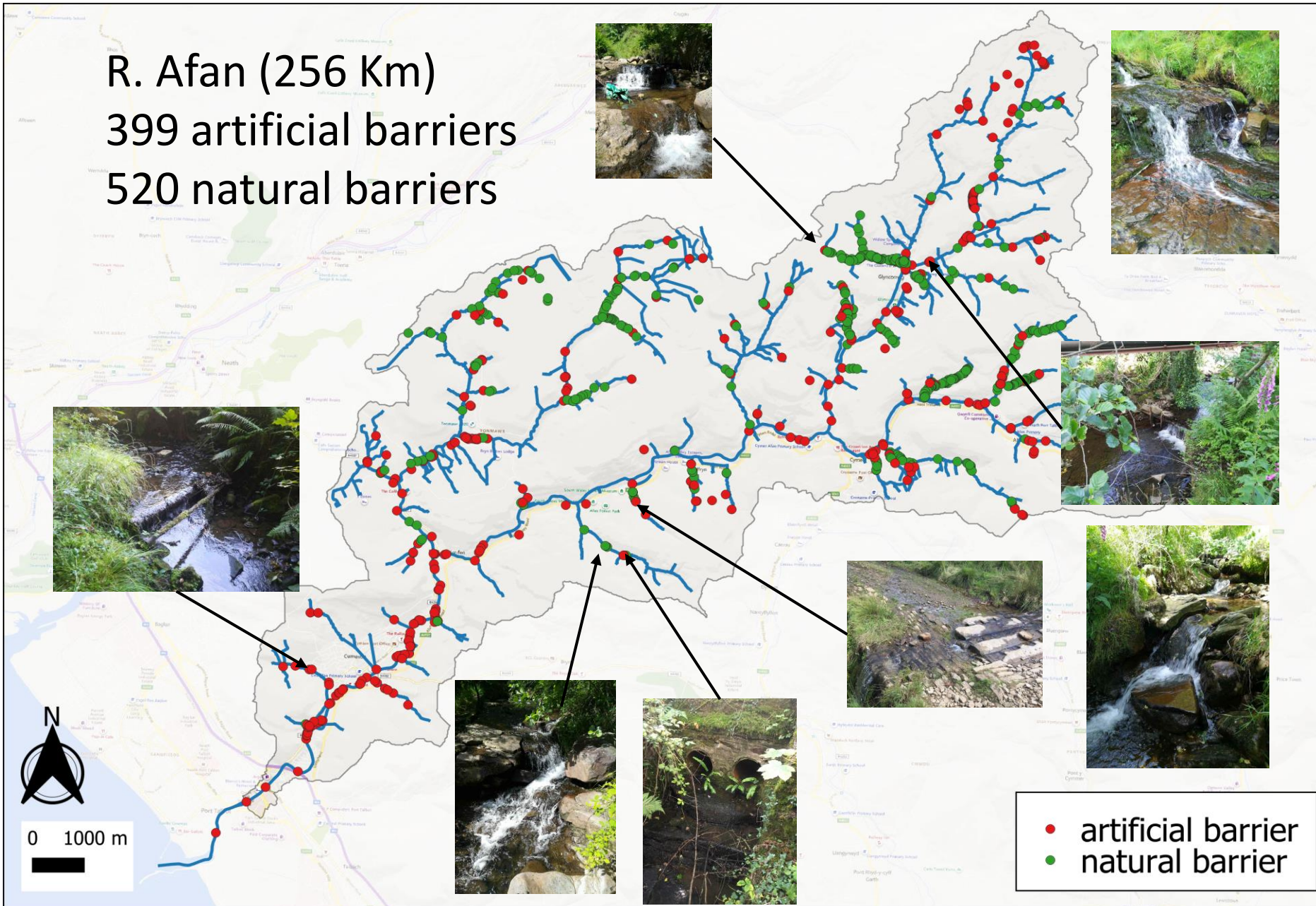
Reconnecting Our River



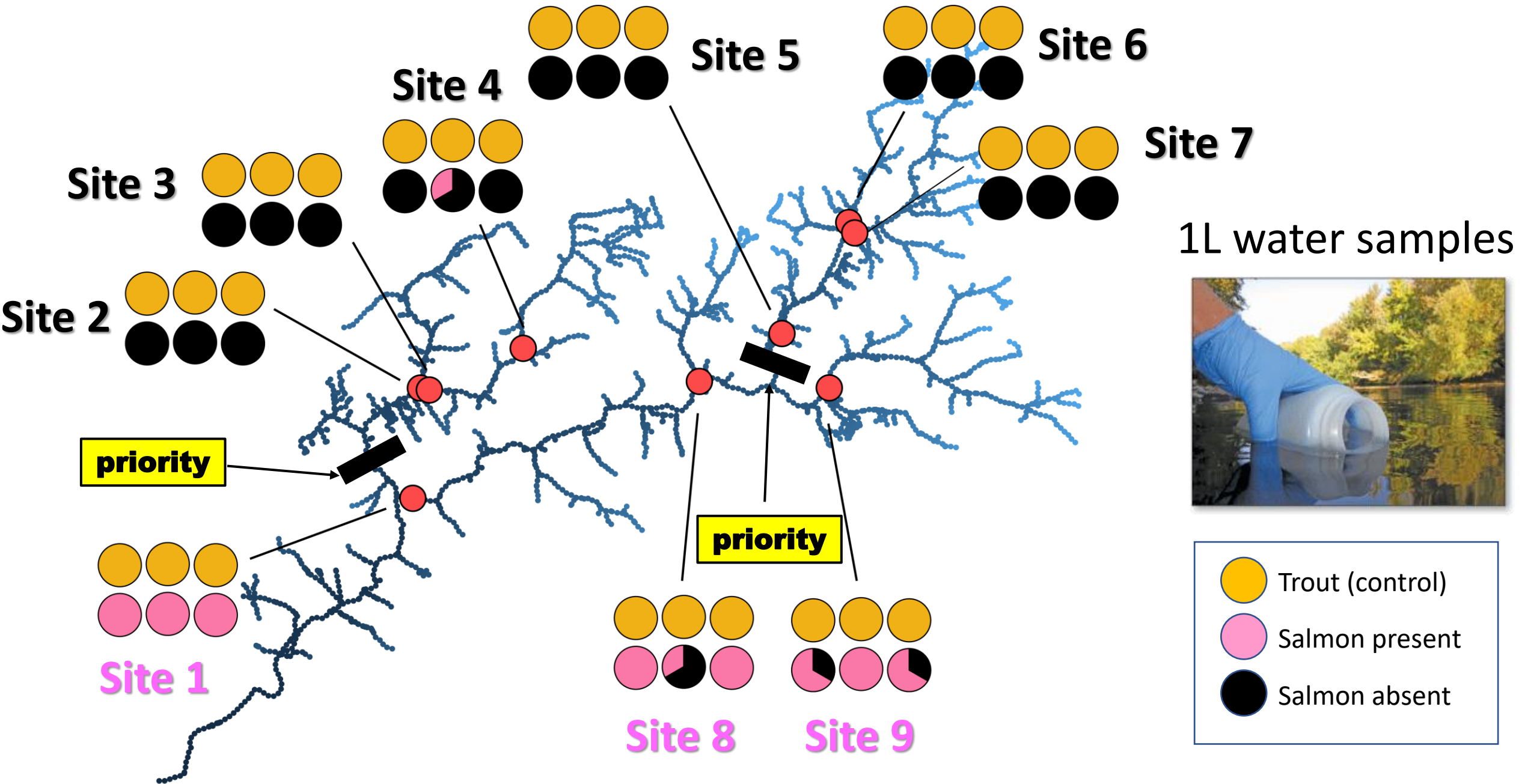
eDNA collection



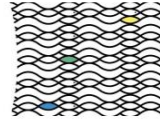
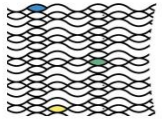
R. Afan (256 Km)
399 artificial barriers
520 natural barriers



**Which
barriers
limit
salmon?**



7. Spreading the word



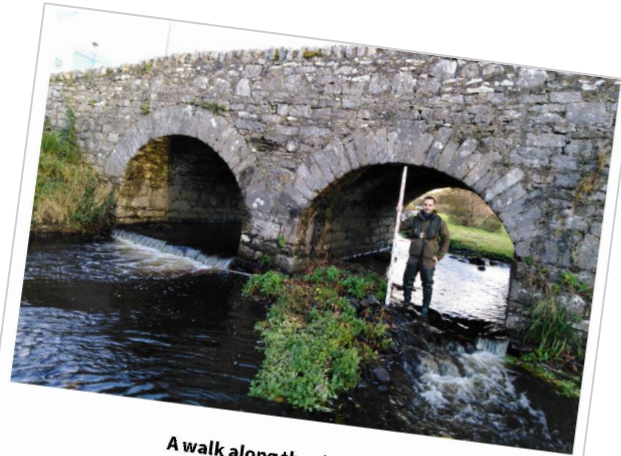
We have a new word:

AMBERSSADORS



These are people who are enthusiastic about the AMBER project and the expected results.

Like us!



A walk along the river basin

While Ireland already has a pretty good database of recorded barriers, one of our ambersadors, Santiago Lopez, understands the necessity of using the barrier tracker to also keep record of the barriers (big and small) within rivers and streams.

How many barriers did he track?

amberize



/ˈambərɪs/

Verb

1. To remove a barrier
2. To overcome a challenge
3. To defeat an obstacle [utterly]

...to make a Splash

+50M
people

2,510 subscribers

43 videos

5,000
copies

+800 attended
our webinars

1,000
downloads

+45K web visits





Thank You



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Let it Flow

