



WORLD FISH MIGRATION  
FOUNDATION



## Reconectando peces, ríos y gente: Dam Removal Europe

Pao Fernández Garrido & Herman Wanningen (WFMF)  
Seminario final de LIFE Irekibai – 25 noviembre 2020



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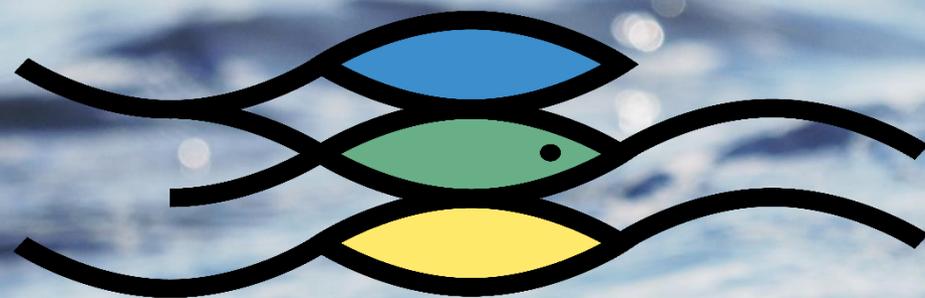
# SAVE MIGRATORY FISH IN RIVERS

© Jeremy Shelton

# RIVERS FULL OF FISH



**GETTING STUCK**



# AMBER

## Adaptive Management of Barriers in European Rivers

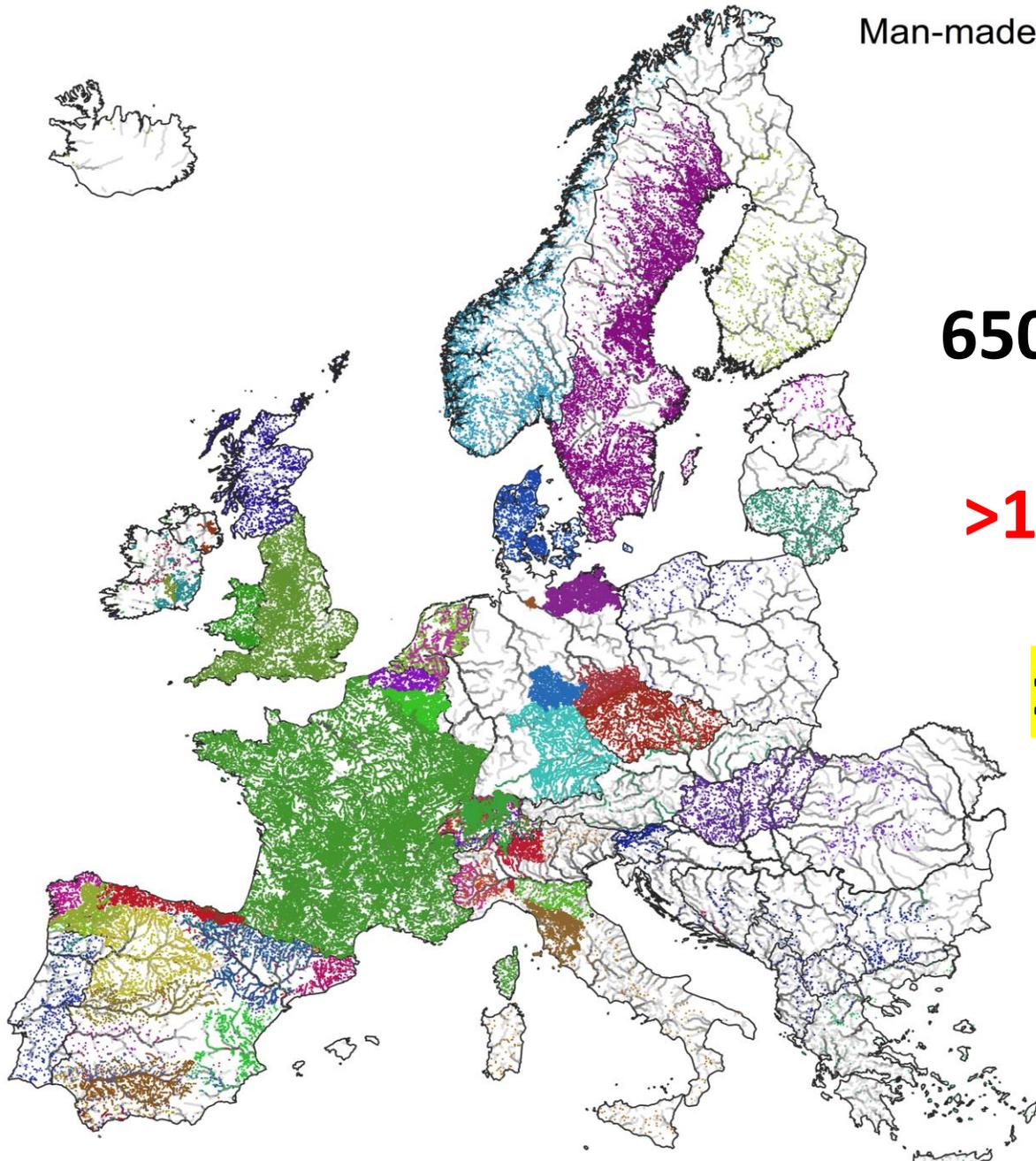
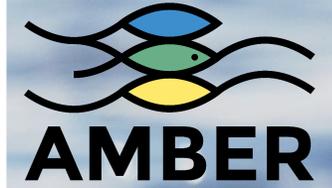
A COLLABORATIVE PROJECT FOR GUIDANCE ON BARRIER  
LOCATION, REMOVAL AND MITIGATION IN EUROPE

[www.amber.international](http://www.amber.international)



Horizon 2020

Man-made river barriers included in the AMBER Atlas  
(November 2018)

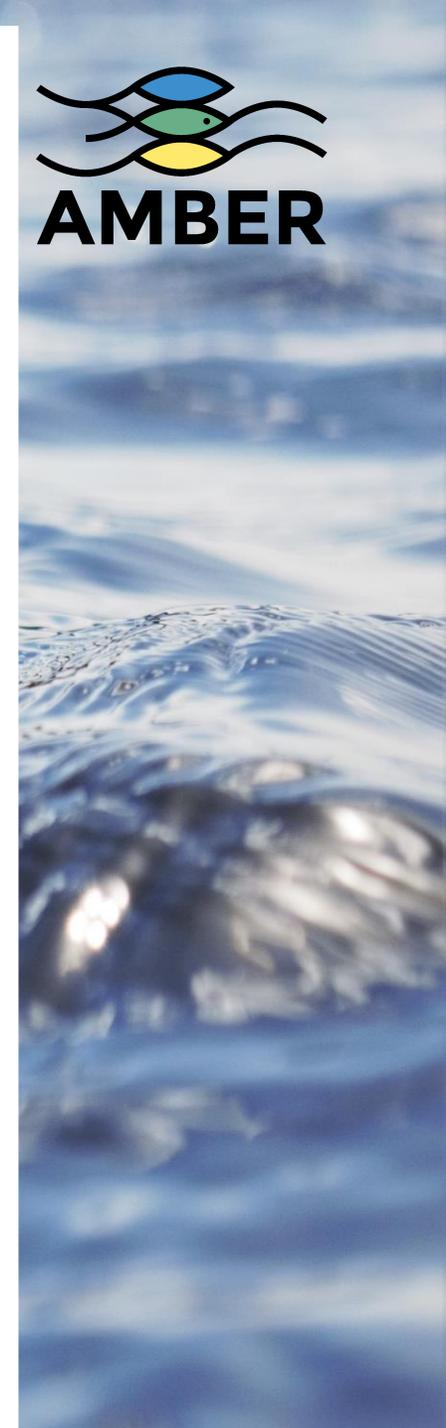


**650,000 collected barriers**

**>1.2 MILLIONS BARRIERS**

**>100,000 OBSOLETE**

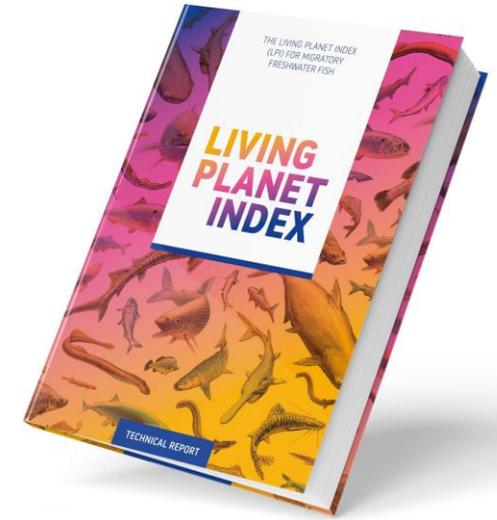
0 205 410 820 km



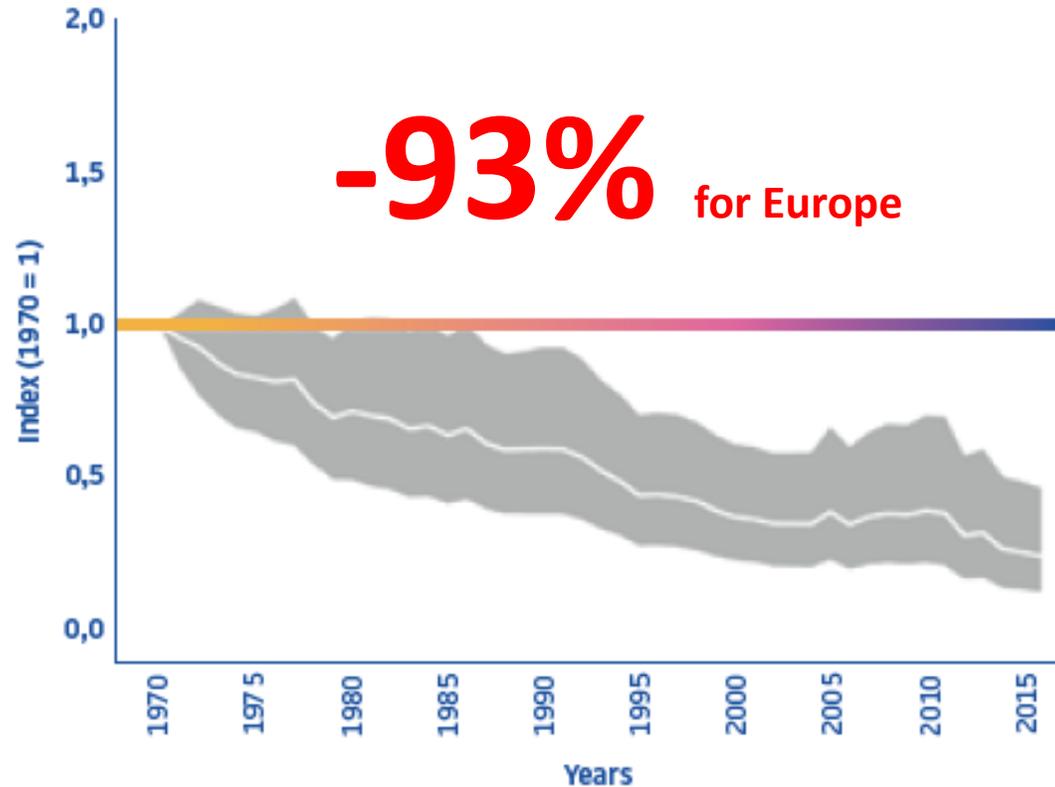


**ZSL**  
INSTITUTE OF  
ZOOLOGY

# LIVING PLANET INDEX FRESHWATER MIGRATORY FISH



Cambridge  
Conservation  
Initiative



**Download:**

[worldfishmigrationfoundation.com/living-planet-index-2020/](http://worldfishmigrationfoundation.com/living-planet-index-2020/)





regain prosperity and  
economic development.

Source: *Lachs quo vadis*



<https://www.worldfishmigrationday.com/news/150/films-you-can-watch-at-home>

# South Korea: 4 Major River Project

## Disaster of the Four Rivers Project

- "Green Algae Latte"



## Disaster of the Four Rivers Project

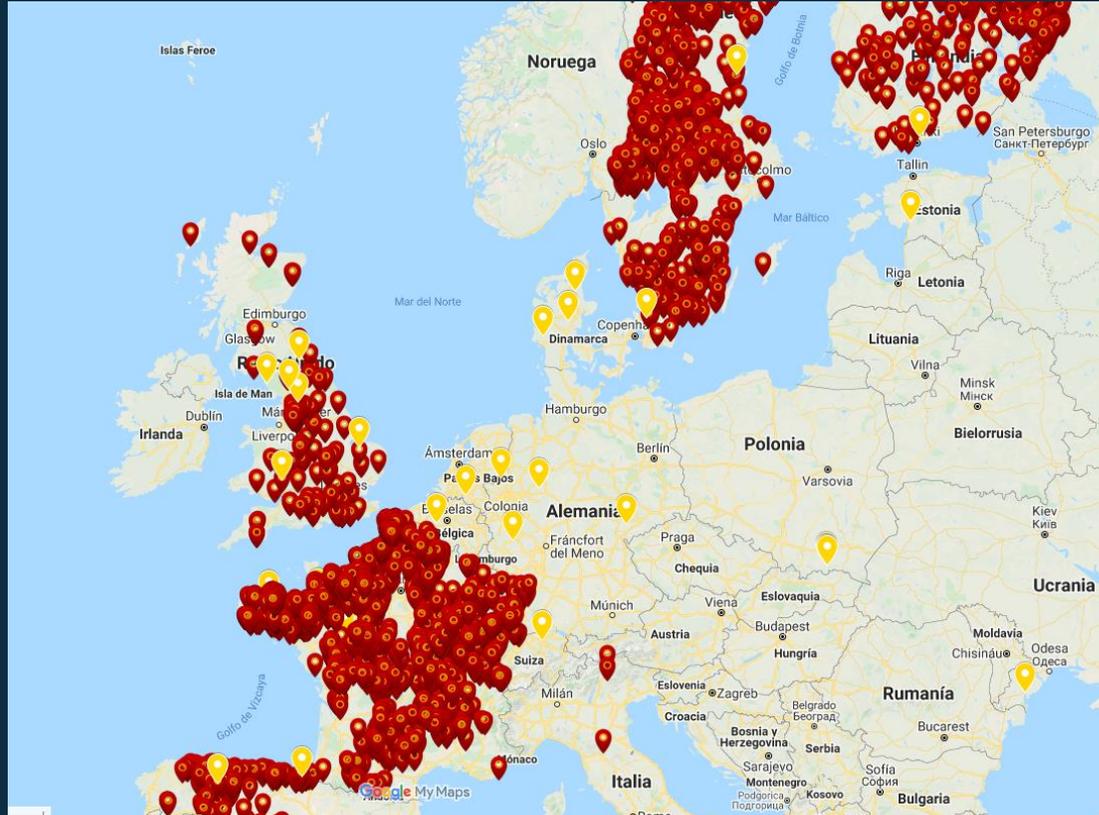
- "Green Algae Latte"



**Source:** Damremoval.eu / Resources / Presentations /  
Jenny Shin (Korean Federation of Environment Movement - KFEM)



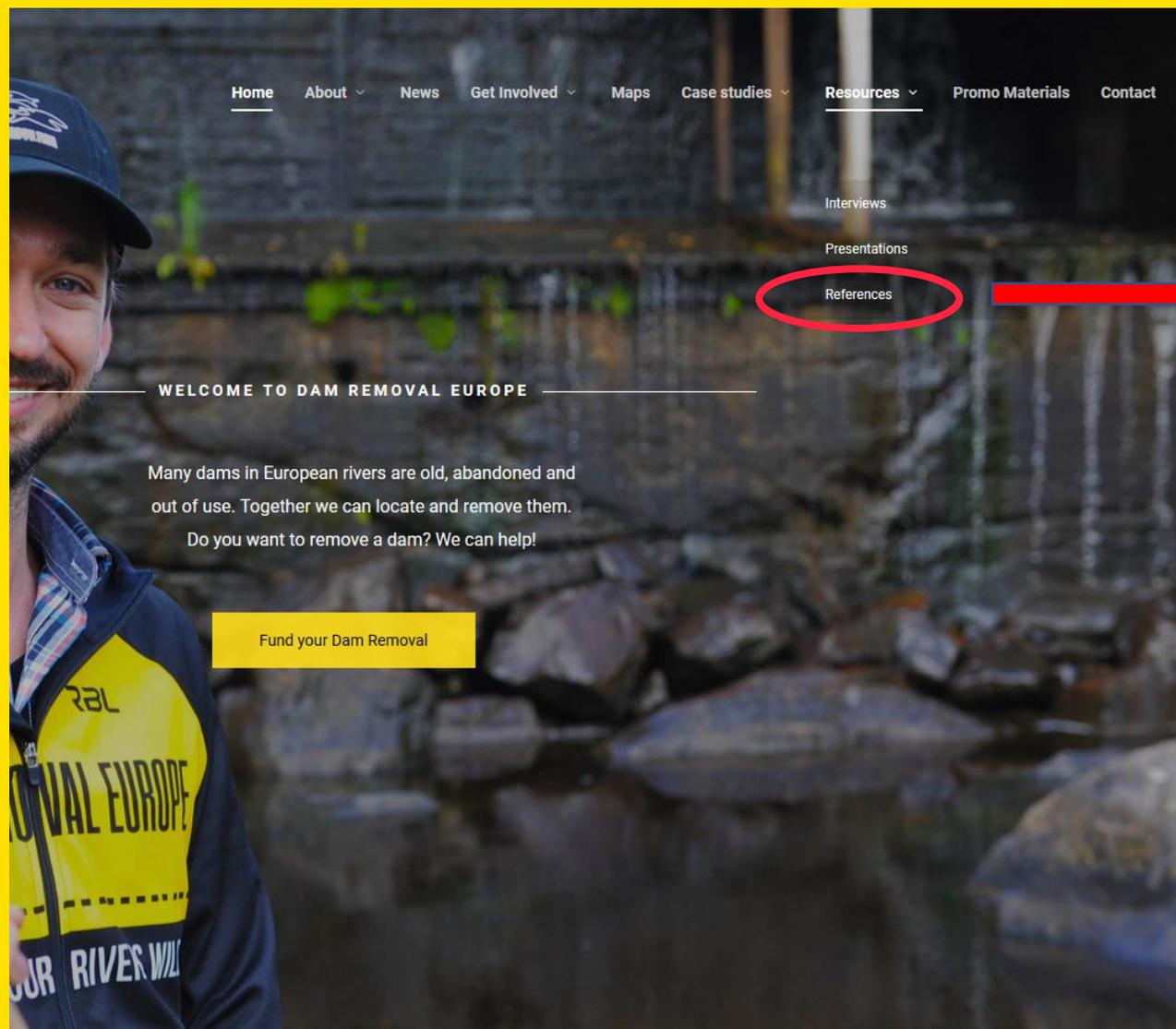
<https://damremoval.eu/>



Source: Dam Removal Europe Map

FRANCE	>2.400*
SWEDEN	>1.600*
FINLAND	>500
SPAIN	>300
UK	>200
NETHERLANDS	>50
ESTONIA	8
IRELAND	5
ITALY	4
SWITZERLAND	1
GERMANY	hundreds (no inventories)
DENMARK	hundreds (no inventories)

\* Collapsed + man removed



# Dam Removal Europe

## EU Biodiversity Strategy 2030

“Restoring at least 25,000 km of rivers to be free-flowing”



The screenshot shows the official website for the EU Biodiversity Strategy for 2030. At the top, there is the European Commission logo and the word 'ENVIRONMENT'. A navigation menu on the left lists various topics related to nature and biodiversity. The main content area features the title 'EU Biodiversity Strategy for 2030' and a summary of the strategy's goals and key elements.

**ENVIRONMENT** New ENV website >

European Commission > Environment > Nature and biodiversity

**Nature and biodiversity**

- Biodiversity Strategy
- Nature and biodiversity law
- Species protection
- Natura 2000
- Green infrastructure
- Knowledge and data

### EU Biodiversity Strategy for 2030

The European Commission has adopted the new [EU Biodiversity Strategy for 2030 and an associated Action Plan \(annex\)](#) - a comprehensive, ambitious, long-term plan for protecting nature and reversing the degradation of ecosystems.

It aims to put Europe's biodiversity on a path to recovery by 2030 with benefits for people, the climate and the planet. It is also the proposal for the EU contribution to the upcoming international negotiations on the global post-2020 biodiversity framework.

In the post-COVID context, the Biodiversity Strategy aims to build our societies' resilience to future threats such as climate **change** impacts, forest fires, food insecurity or disease outbreaks, including by **protecting** wildlife and **fighting** illegal wildlife trade.

A core part of the [European Green Deal](#), the Biodiversity Strategy will also support a green recovery following the pandemic.

**Main elements of the Strategy for 2030**

The Strategy contains specific commitments and actions to be delivered by 2030, including:

- Establishing a larger **EU-wide network of protected areas on land and at sea**, building upon existing Natura 2000 areas, with strict protection for areas of very high biodiversity and climate value.
- An **EU Nature Restoration Plan** - a series of concrete commitments and actions to restore degraded ecosystems across the EU by 2030, and manage them sustainably, addressing the key drivers of biodiversity loss.
- A set of measures to **enable the necessary transformative change**: setting in motion a new, strengthened governance framework to ensure better implementation and track progress, improving knowledge, financing and investments and better respecting nature in public and business decision-making.



# Environmental reasons

- Impacts on fish's, rivers', oceans' and people's health

- **Sediments and nutrients trap behind dams,**

- \* nutrients and sediment starving downstream the dam,
- \* causing channel and bank erosion,
- \* dismissing deltas' formations due to the lack of sediment deposition,
- \* in some cases causing coastal erosion (beach shrinking or disappearing) due to sand decrement.

- **River fauna blocked and isolated:**

- \* not able to migrate to be able to feed and reproduce (i.e.: anadromous and catadromous fish like salmon and eel)
- \* decline and even extinction of fish populations → which affects also to other fauna (i.e.: birds and mammals, i.e. decline of eagles or otters population).

- **Alter the natural flow of rivers, reducing the downstream flow and decreasing the river's natural flood frequency:**

- \* reduces channel connection with floodplains (= decreases soil fertility and aquifers recharge),
- \* deteriorating water quality (less oxygen levels, no natural temperatures above and below the dam, potential algae booming during hot seasons)



Photo: Pao Fernández Garrido

# Safety reasons

## ○ Hazards for people

- Structures in poor safety conditions in the rivers (abandoned or not well maintained)

- Structures in the rivers which causes human deaths (called in USA “drowning in machines”)

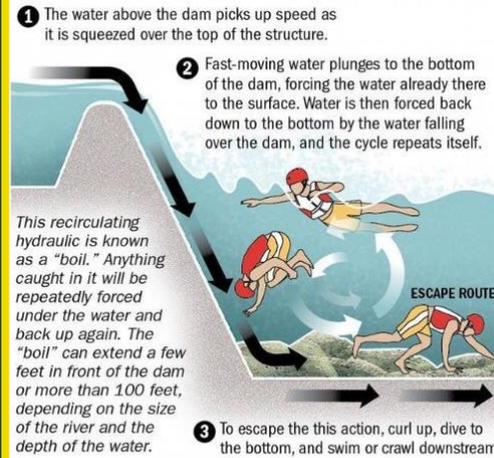


### Low-head dam safety

Approximately 300 dams in Pennsylvania fit the definition of a low-head dam and are regulated by the Department of Environmental Protection. While these structures must be marked with signs and buoys to warn anyone approaching to stay back, they may not always be visible from upstream to unsuspecting boaters and swimmers. Adding to the danger, these barriers can create an underwater hydraulic cycle that is nearly impossible to escape.

#### SURVIVING A HYDRAULIC ‘BOIL’

If you are caught in a low-head dam try to stay with the boat or on-top of anything that floats, for as long as possible.



Sources: Pennsylvania State Police community awareness bulletin, Popular Mechanics Post-Gazette

## Tragedia in Trebbia a San Salvatore, 26enne muore annegato FOTO **foto**

E' stato recuperato intorno alle 17 il corpo del giovane annegato in Trebbia a San Salvatore di Bobbio (Piacenza). Classe '89, il giovane era arrivato da Pontecurone in provincia di Alessandria

di Editore - 28 Giugno 2015 - 0:00

Commenta Stampa Invia notizia

Più informazioni su



Tragedia in Trebbia, alla diga di San Salvatore di Bobbio (in provincia di Piacenza), dove nel pomeriggio di domenica 28 giugno un giovane di 26 anni, Dario Triglione, originario di Pontecurone, in provincia di Alessandria, è annegato nelle acque profonde del torrente. in

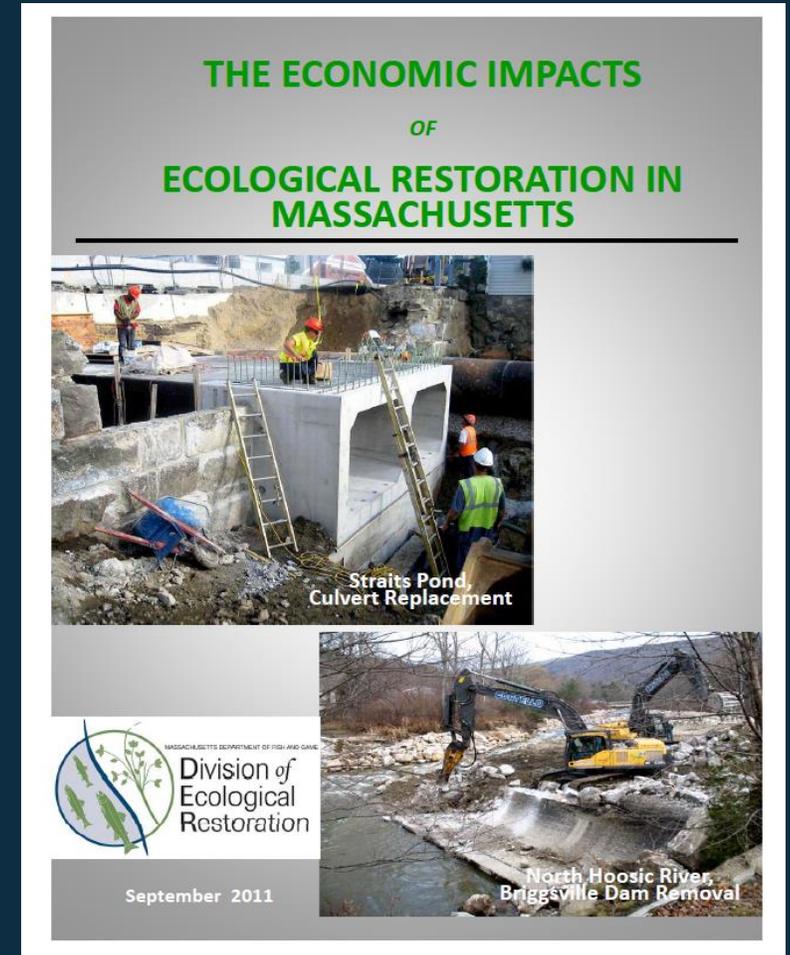
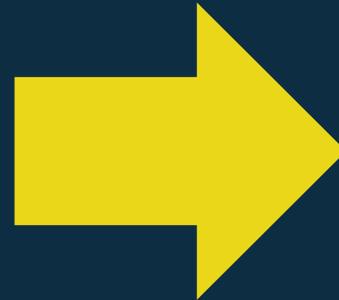
# Economic reasons

- Economical

- No costs for maintenance and repairs
- New business opportunities
- “Restoration Economy”

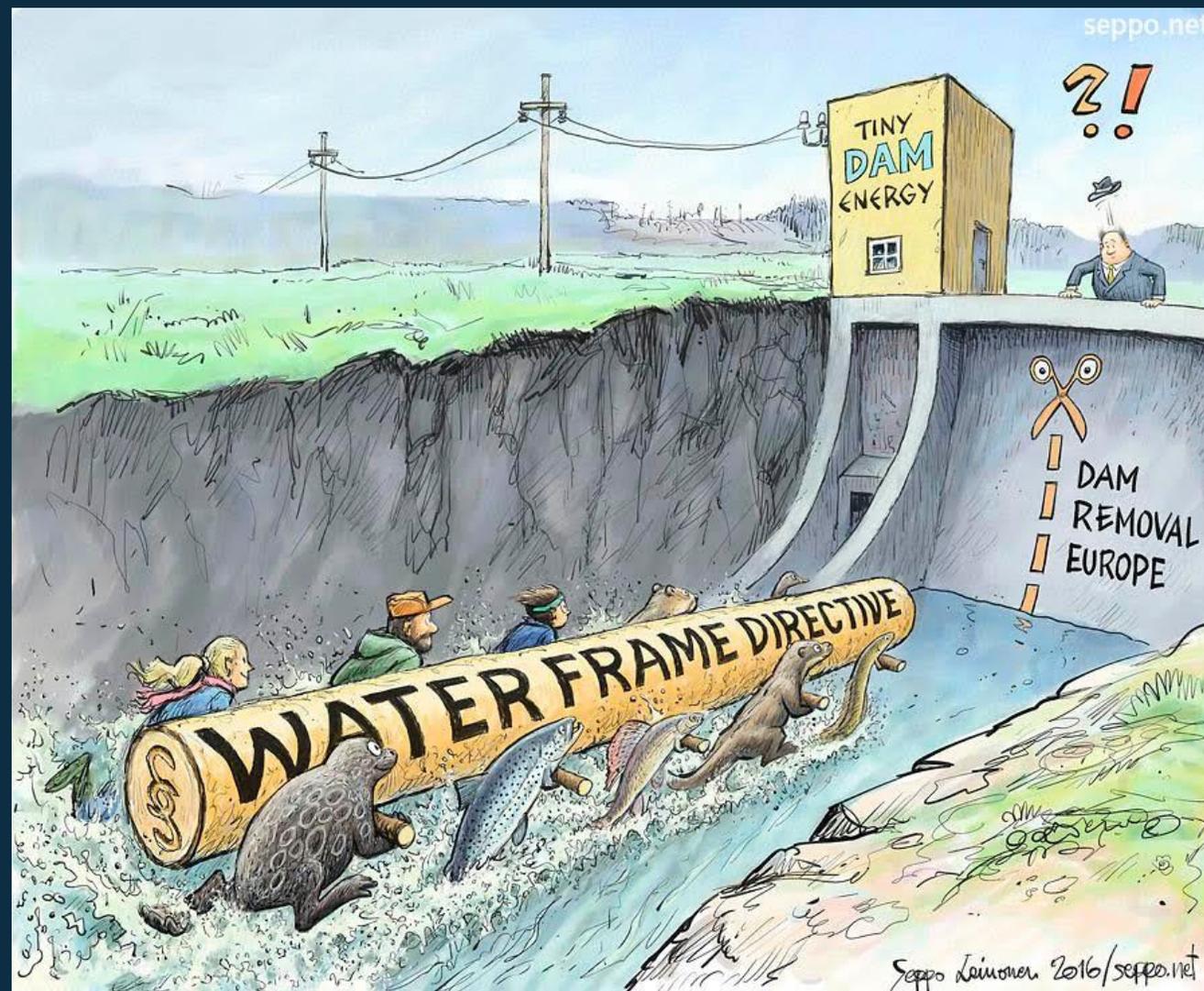


“Restoration projects generate equal to or greater economic benefits than other types of projects such as road and bridge construction”.



# Liability reasons

- National Legislations
- European Legislation



## Scotland: Water Environment Fund (WEF)

WEF is an annual fund of around £2-3million, administered by SEPA (Scottish Environment Protection Agency)

 News ▸ Local News ▸ Galloway News

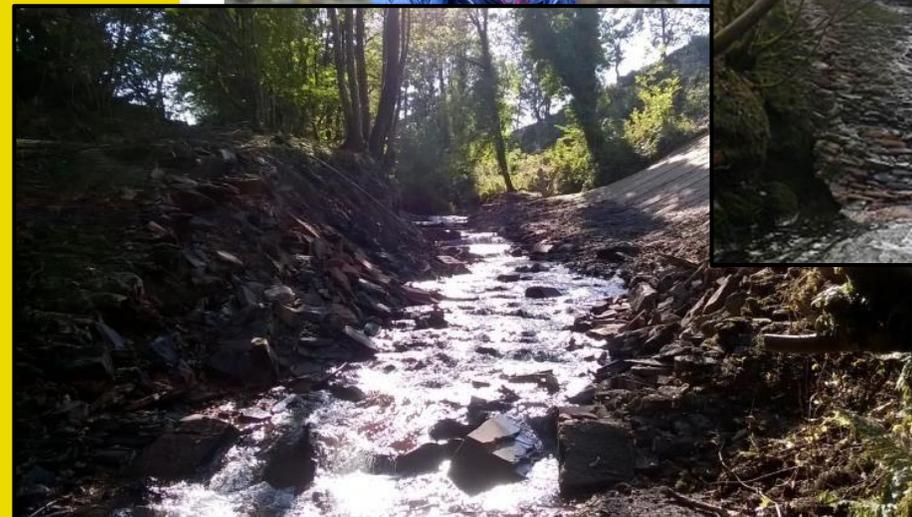
### Salmon return to Stewartry burn after an absence of almost a century away

The removal of a barrier in a burn at the former Tarff Creamer at Twynholm has allowed the fish to return

SHARE     

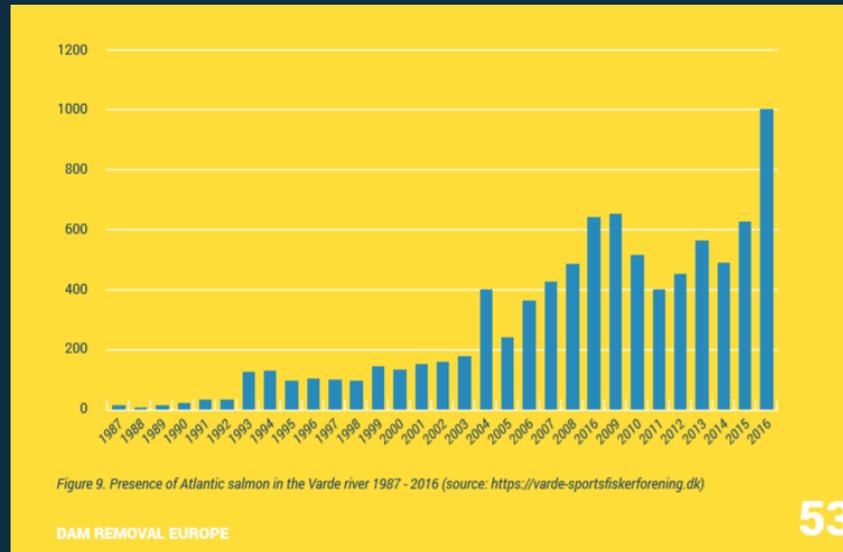
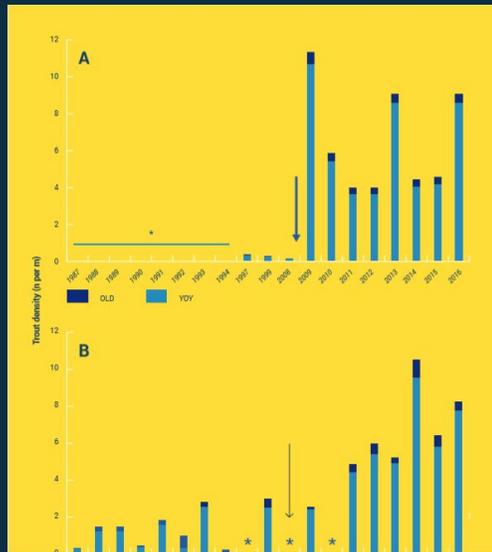
By Stephen Nor...

10:10, 9 MAR 2018



# Vilholt Dam, Gudenå River (Jutland, Denmark)

# Removal of dams in Varde River (Esbjerg, Denmark)



Source: <https://damremoval.eu/wp-content/uploads/2019/03/DRE-policy-Report-2018-digitaal-010319.pdf>

# Finland: dam removal in political agenda



Screen-shot from LoveFlows documentary

Government has planned to use 18 Million Euros to restore their rivers

# France: Selune River Basin “Revivial”



SOURCE: <https://damremoval.eu/portfolio/vezins-and-la-roche-qui-boit-dams/>

## Tarpinstitucinio bendradarbiavimo skatinimas upių atvėrimo žuvims klausimu

Aplinkos ministerija

2020/03/09 - 2020/09/04

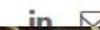
### Problema

Upės visame pasaulyje patiria žmonių veiklos įtakotą spaudimą ir vienas svarbiausių faktorių, lemiančių prastą upių būklę Europoje ir užkertantis kelius dešimtims migruojančių žuvų rūšių, yra upių tėkmės ribojimas užtvankomis ir kitais statiniais (ES Vandens pagrindų direktyva). Tuo tarpu Lietuvoje, anot aplinkos apsaugos agentūros, net 82,6% upių yra paveiktos užtvankų ir tiesinimo



**Jonė  
Leščinskaitė**

Dalyvė 2019/20



**Ieva  
Zamaraite**

Dalyvė 2019/20





# DAM BUSTERS ([trailer](#))

DAMBUSTERS

**¡Muchas gracias!**

**Mila esker!**

**Thank you so much!**

**Pao Fernández Garrido**  
**World Fish Migration Foundation**  
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