

ANP
ASSOCIAÇÃO
NATUREZA
PORTUGAL



ANP em associação com WWF

A red JCB backhoe loader is positioned on a concrete dam structure, with its arm extended and bucket lowered into the water. The dam is surrounded by a dense forest of tall trees and lush green foliage. The water is flowing over the dam, creating a small waterfall. The scene is captured in a wide-angle shot, showing the machine's position relative to the surrounding environment.

Dam Removal in Portugal: challenges, opportunities and status quo

©Rob Kleinjans Photography

ABOUT WWF

World's largest independent non-governmental nature conservation organization.

5 million members globally & active offices in >120 countries.

Mission: to create a future where people & nature can live in harmony.

ABOUT ANP|WWF

Associação Natureza Portugal works in association with WWF International and continues the work that has been ongoing in national territory since 1990 by WWF Mediterranean.

It operates in 5 practices: oceans and fisheries, forests, wildlife, food and fresh water and currently has >20 conservation projects active on the ground.

FORESTS



OCEANS



WILDLIFE



FRESHWATER
R



FOOD



CLIMATE
AND
ENERGY



ANP
ASSOCIAÇÃO
NATUREZA
PORTUGAL
ANP em associação com WWF



CONSERVATION PRIORITIES

OCEANS

- Promote a coherent network of Marine Protected Areas, and adequate governance and management of marine biodiversity;
- Improve the governance of the most relevant and vulnerable fish populations in Portugal;
- Promote the sustainable consumption of fish.

CLIMATE AND ENERGY

- Promote commitments on GHG emission reduction in line with the Paris Agreement (<1.5 °C);
- Improve the use and access to renewable energies and their integration into the electricity grid.

CONSERVATION PRIORITIES

FORESTS, FOOD AND WILDLIFE

- Promote landscape restoration models and sustainable management practices in forests affected by fires;
- Support the creation of innovative economic incentives for the remuneration of ecosystem services;
- Sustainable food production and consumption;
- Improve human cohabitation with large carnivores.

FRESHWATER

- Reduction of the water footprint and implementation of risk analysis;
- Water Stewardship projects and corporate responsibility;
- Reduction of dam impacts on river systems;
- Ecological restoration and improvement of the water cycle.

Let's talk about dams!

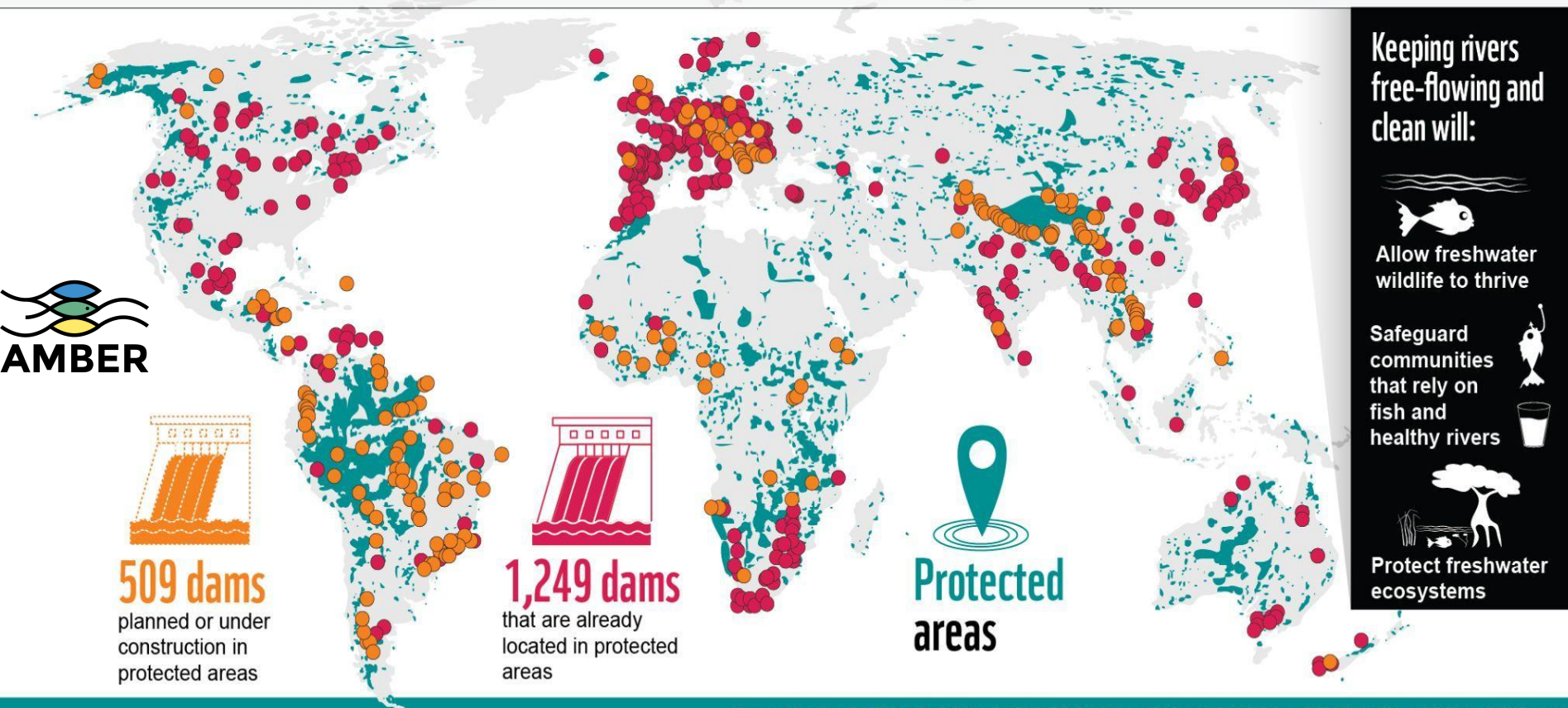


> **1.2 millions** in EU rivers (> **1 x river km**)

> **15 %** of barriers **obsolete** (> 150.000)

Over **500 dams** are planned or under construction in **protected areas**

The wrong dam in the wrong place can change how a river flows and cause blockages. Species that move to find food, reproduce, or seek new habitat as the seasons change—such as salmon and river dolphins—can no longer do so. This threatens important freshwater ecosystems and people and wildlife who depend on them for survival.

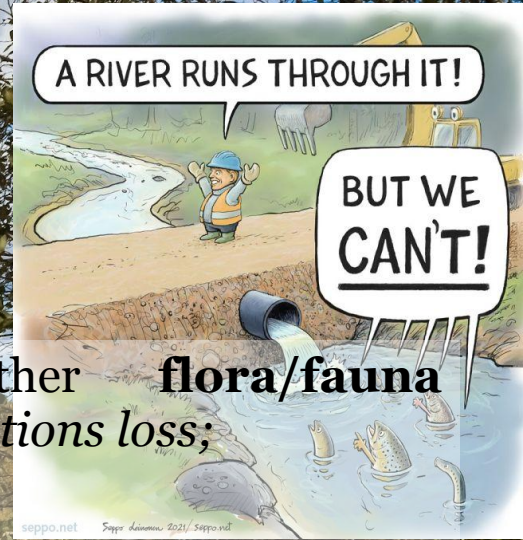


Impacts: Economic, Ecological & Public Health

ANP
ASSOCIAÇÃO
NATUREZA
PORTUGAL
ANP em associação com WWF



- **Block migration/Movements of fish & other flora/fauna**
> 84% freshwater biodiversity & 55% migratory fish populations loss;
- **Facilitate Exotic spp;**
- **Block > 25% sediments → Beach erosion & need of chemical fertilizers (& costs associated);**
- **Release greenhouse gasses;**
- **False perception of water abundance, increasing waste;**
- **Reduced life, high maintenance costs and risks for human health.**



REMOVAL SOCIOECONOMIC **BENEFITS**

Public safety

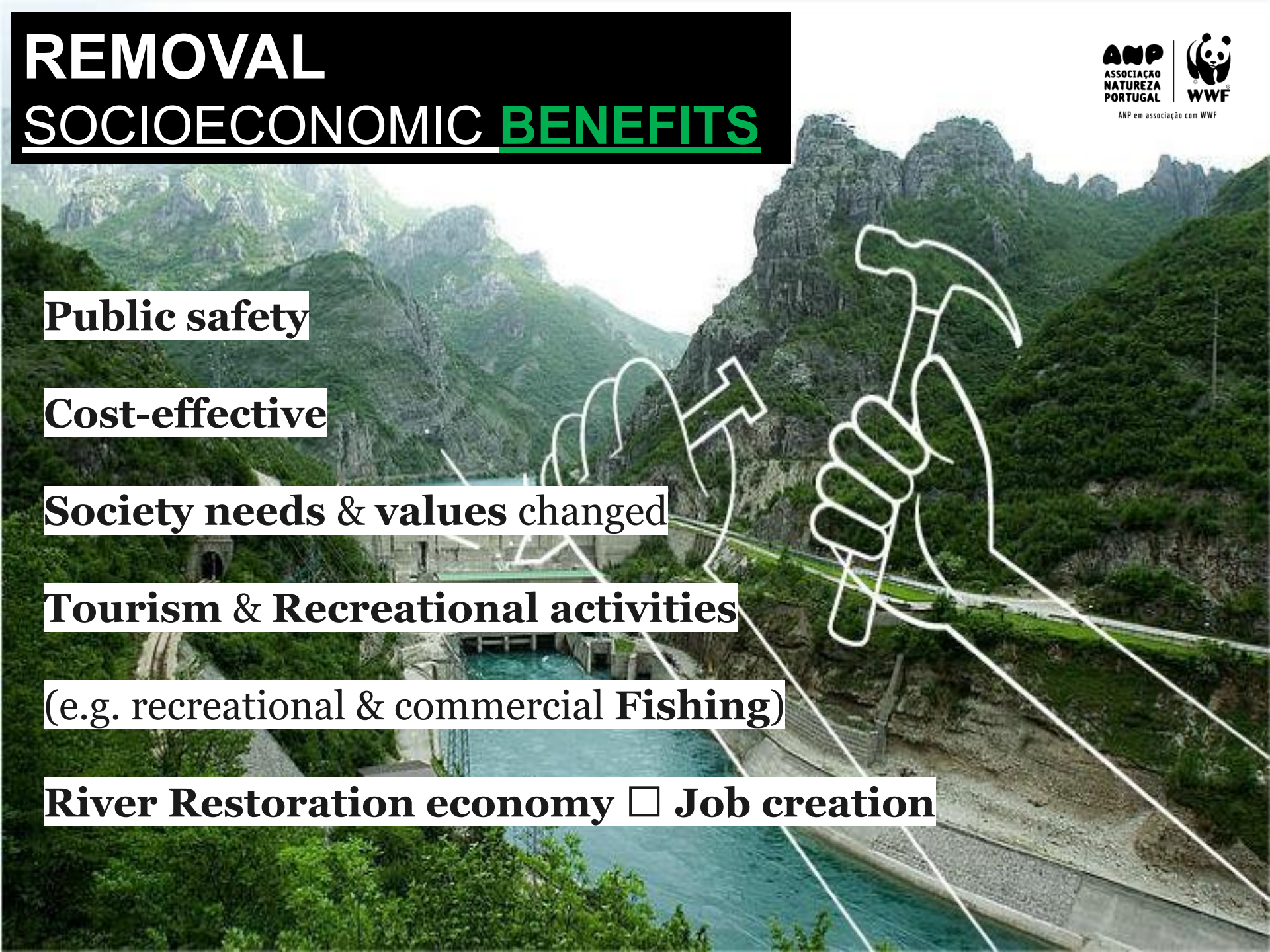
Cost-effective

Society needs & values changed

Tourism & Recreational activities

(e.g. recreational & commercial **Fishing**)

River Restoration economy □ Job creation



REMOVAL ECOLOGICAL **BENEFITS**

Restore **essential river ecosystem services**

Restore **fish migratory routes** (also of commercial value)

Restore **habitat** for several Flora/Fauna spp.

Permanent benefits at basin level & **Climatic Resilience**

2030 Biodiversity Strategy River Restoration Targets (Under the EU Green Deal)

Free up 25.000 km rivers

WFD (good ecological status)



Other EU Policies support Fluvial Continuity
(e.g. **Habitats Directive**, **Eel Regulation**)

Free-flowing rivers: Commission advises how to select sites and finance removal of obsolete barriers

As announced in the [EU Biodiversity Strategy for 2030](#), the Commission has developed a [guidance document](#) to assist Member States in identifying and prioritising barriers that could be removed to help achieve the Biodiversity Strategy's goal of restoring 25 000 km of rivers to be free-flowing, and in identifying possible funding sources. The Strategy proposes two main types of action to achieve that goal: removal of barriers and the restoration of floodplains and wetlands.

Commissioner for the Environment, Fisheries and Oceans Virginijus Sinkevičius, said:

Rivers in Europe are heavily fragmented. Removing barriers to restore their natural flow and connectivity will help freshwater ecosystems thrive and facilitate the migration of endangered species, such as the sturgeon and the European eel. Investing in healthy rivers will also bring many benefits related to ecosystem services, such as flood protection, water purification and recreational opportunities. We can now provide practical support to Member States on how to do it and on how to finance such actions

Europe's rivers, lakes and alluvial habitats are under immense pressure. The key pressures concern fragmentation and hydromorphological changes, such as canalisation, building dams and bank reinforcements. The Biodiversity Strategy calls for greater efforts to restore the natural functions of rivers, as well as for stepping up efforts to achieve the Water Framework Directive objectives. Furthermore, it seeks to foster a greater integration of efforts for the protection of EU waters and nature to achieve not only the objective of achieving good ecological status, but also the objective of habitat and species restoration, in line with the European Green Deal.

STATE OF THE ART

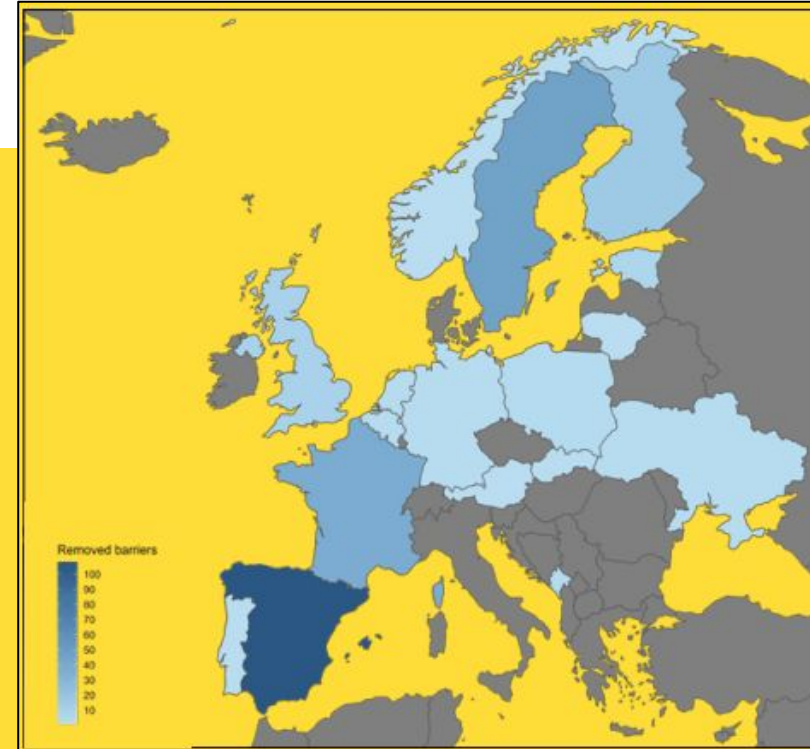


2021



- 239 removals in 17 countries

- Spain: 108!!!



BARRIERS IN PORTUGAL



TF National Strategy for Obsolete Hydraulic infrastructures removal (2017)

Estado prepara-se para dismantlar duas barragens na bacia do Douro

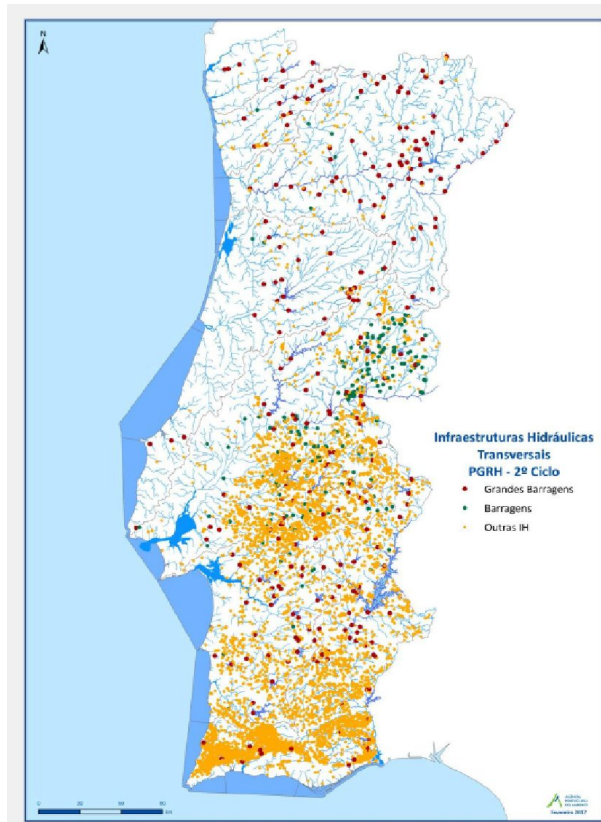
Comissão para a apresentação da rede Douro Vivo, o Vice-presidente da Agência Portuguesa do Ambiente afirmou que a operação, incluída no Plano Nacional de Barragens, será anunciada em breve.

Abel Coentrio
22 de Maio de 2018, 18:59



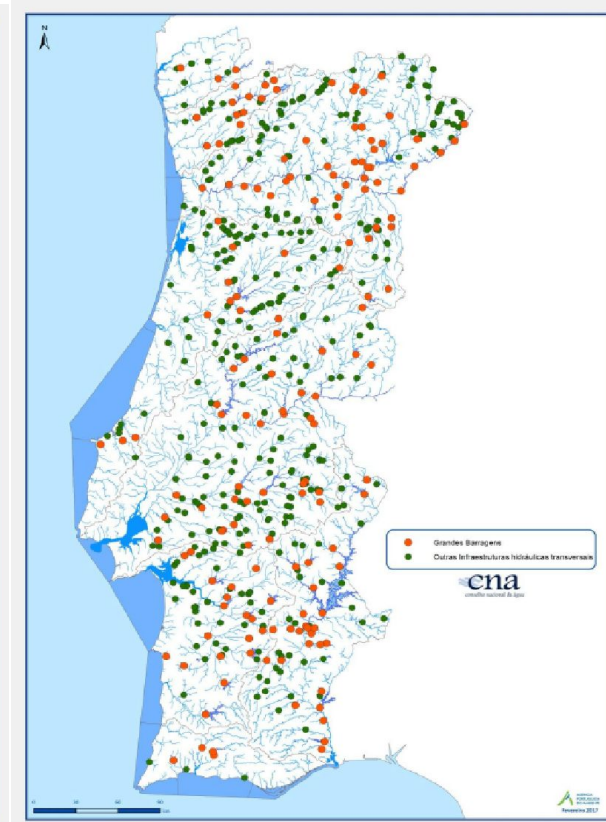
Na bacia do Douro há cem barragens, segundo os dados oficiais PAULO RICCA

7687



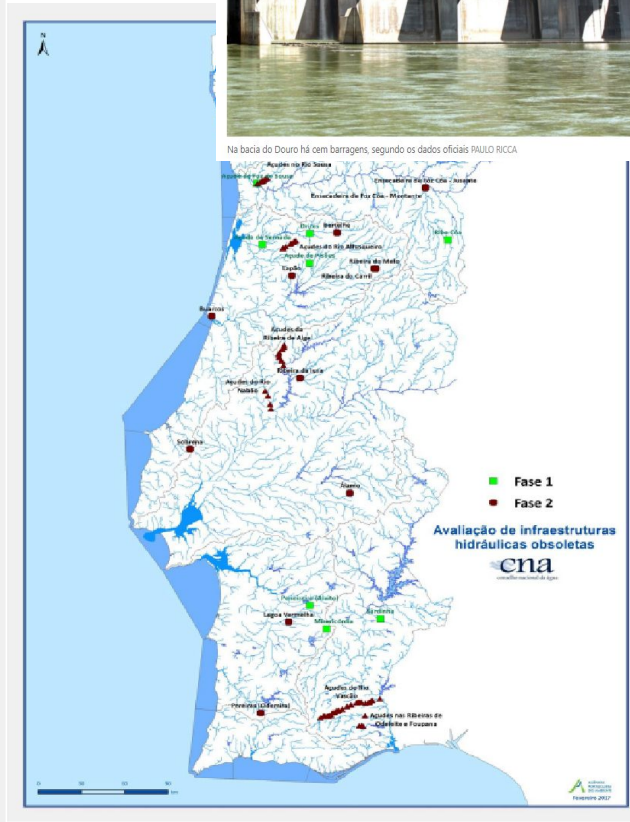
barriers identified by the HRMP 2016-2021

530



selected barriers based on WFD (basins >10km²)

~33



barriers prioritized for removal

2 removed!

BARRIERS in the DOURO BASIN

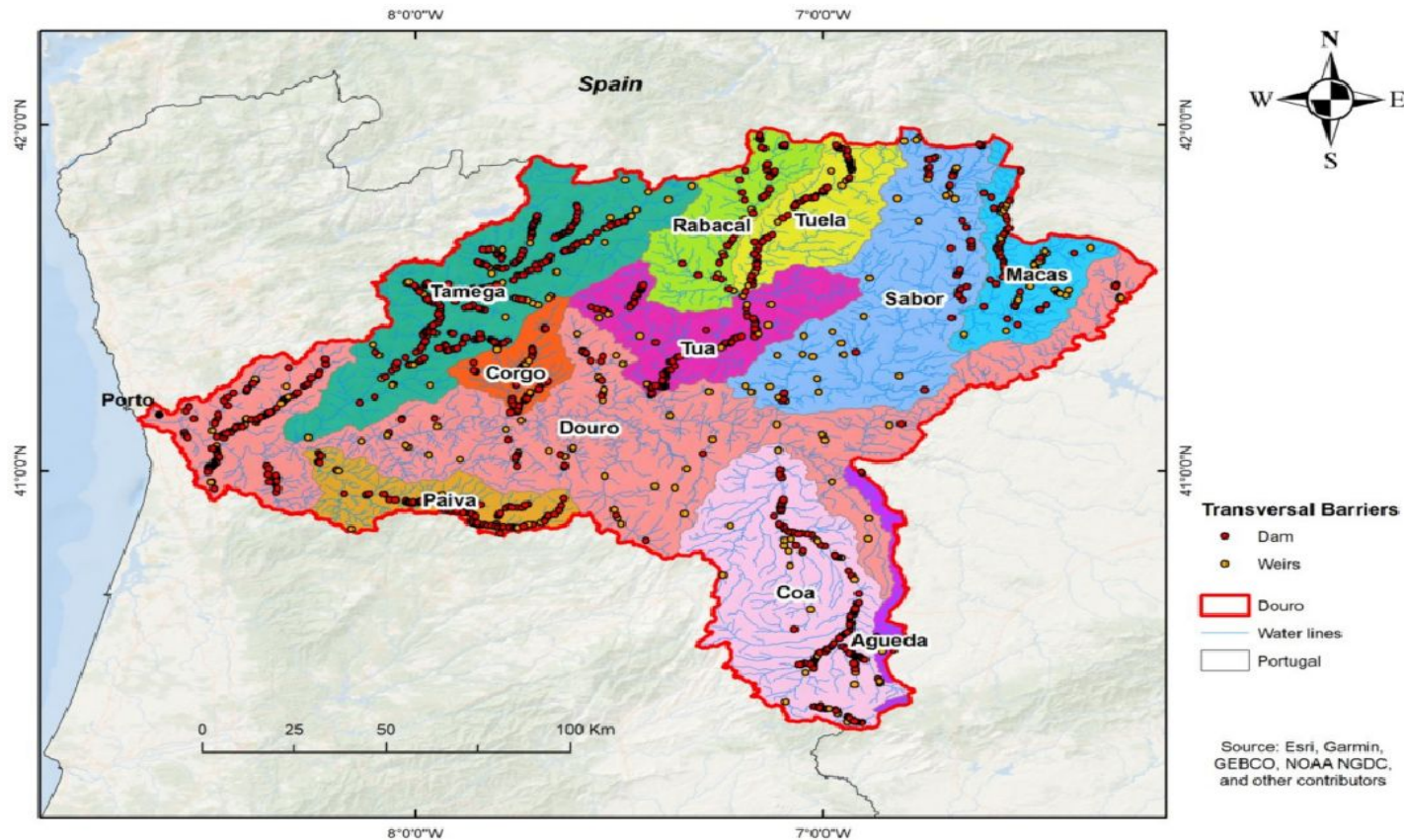


Figure 4. Spatial distribution of dams and weirs within the Portuguese side of the Douro River Basin.

Cortes *et al.* (2019)

- **1201** (TF identified 100)
- **> 25 % (255) obsolete!**

- **New dam!!** (Pisão) 
- *Hydraulic multi-purpose enterprise of Crato*

(Tagus Basin), close to Guadiana watershed edge



Largely funded by Portugal's **National Recovery** and **Resilience Plan**

Against the [Commission's Recommendations for Portugal's CAP strategic plan](#)




call on the European Commission to safeguard the proper implementation of the “do not significant harm” principle



https://wwfeu.awsassets.panda.org/downloads/wwf_analysis_application_of_the_dnsh_criteria_to_nrrps_march2022.pdf

- **PROJETO TEJO** 
- **Dam Foupana Stream?** 

- **Reinforcing inflows to Odeleite reservoir through captation in Guadiana river (Pomarão)?** 



ANP em associação com WWF

CHALLENGES

Breaking Psychological Barriers



- **Agriculture lobby & public beliefs:**
 - 75 % water used for agriculture;
 - *“a river which reaches the sea is like wasting gold”*
- **Public perception of water availability**
- **Lack of legal framework** for removal
- **Incipient funding**
- **(Some) fishermen**

Do people know what a non-obstructed river & its benefits are?

Luckily, various NGOs & Universities working



P

AMBIENTE

Rios estão “bloqueados” por açudes e barragens obsoletas que impedem as migrações dos peixes

Um levantamento publicado em 2016 identificou em Portugal continental mais de 7 mil açudes e barragens dispersas pela rede hidrográfica. Associação ambientalista Zero diz que Governo não está a cumprir o que prometeu quanto à remoção das que estão obsoletas.

Carlos Dias
20 de Abril de 2018, 8:07



SERGIO AZEVEDO

Em Portugal continental há milhares de pequenos açudes, na sua maioria estruturas muito antigas, obsoletas e sem utilização, que faziam parte, na sua maioria, de



Pessegueiro multi-culvert road crossing

Vascão River

ICNF

October 2021



<https://damremoval.eu/portfolio/pessegueiro-removals-portugal/>

Photo credits:
"before" Jorge Bochechas,
"after" Ana Cristina Cardoso

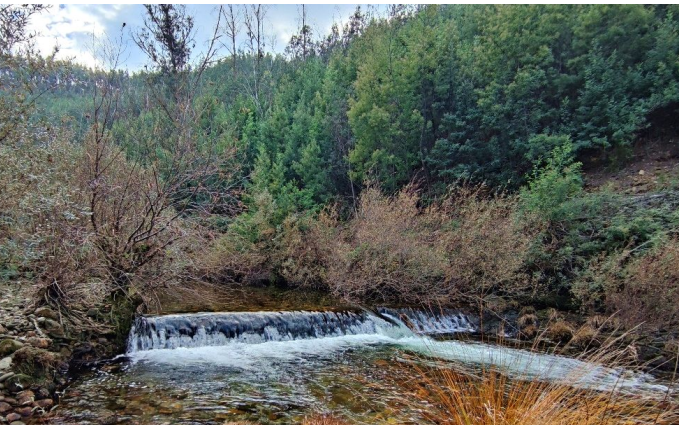
2 Weirs

LIFE ÁGUEDA

March 2022

Coordinated by **Évora Univ.** with technical support of
MARE – Centro de Ciências do Mar e do Ambiente

Alfusqueiro river



Águeda river

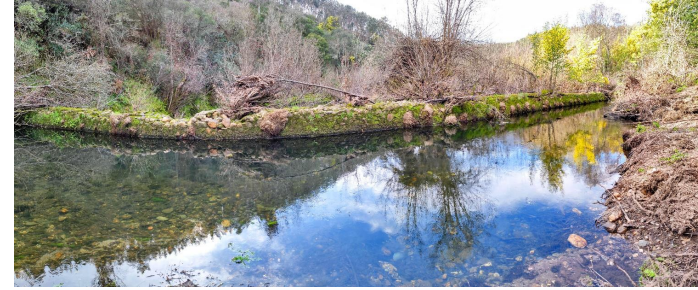


Photo credits: Sílvia Pedro, Universidade de Évora/MARE

2 weirs by EDP (Tua)

(compensatory measures for the Pyrenean desman)



ANP|WWF PT Dam Removal Project

(within Activ. 6.1.2 '*Identification of priority stretches for restoration*' of the **Reconnecting Iberian Rivers** project)



- Identify removable barriers & their potential for reconnecting rivers
- Owners and legal procedures



Rede Douro Vivo



Jorge Roçadas

Junho de 2016

Removal Galaxias weir

Odeleite Stream, Algarve

Up-coming!! 🎉



- Endangered Spanish minnowcarp
- Meeting decision makers
- Community engagement
- Video Before/After
- Fish sampling (traditional + eDNA?)

Comic strip (animated?)



Public Open Meetings with Local Communities, Decision makers & Schools



- **Other 4 EoIs pending approval:**

Odeleite and **Vascão** Streams;

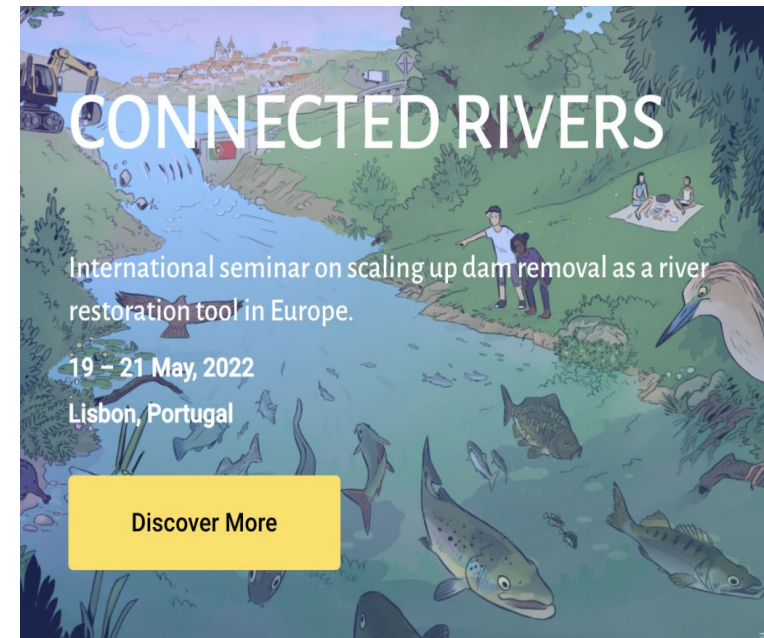
Sabor River;

Sousa River;

Perofilho Stream.

- Other proposals to be prepared

- DRE International Seminar



- **Structural & investment Funds, LIFEs (Scaling up!!)**
- Endorse **2030 Biodiversity Strategy** in EU Council & Parliament
- Condition **funding** to Energy, Agriculture and Transport sectors to **EU Green Deal**
- **Tax water waste**
- Fluvial barrier removal as key river restoration tool in **Hydrographic Basins Management Plans** within WFD
- More & better synergies between civic society & government

ANP
ASSOCIAÇÃO
NATUREZA
PORTUGAL



ANP em associação com WWF

OBRIGADO!

Lquaglietta@natureza-portugal.org

Freshwater consultant for ANP|WWF PT



Seppo Laimonen 2017 / seppo.net

seppo.net