CONNECTED RIVERS

International seminar on scaling up dam removal as a river restoration tool in Europe.

DAM REMOVAL EUROPE

19 - 21 May
LNEC, Lisboa

proTEJO
Movimento Pelo Tejo

The ecocide of the Tagus River by new dams!

Paulo Constantino – spokesperson of proTEJO

proTEJO's Mission

Raise awareness and mobilize citizens and their organizations in the defence and promotion of the Tagus river basin – the Tagus River and its affluents – from an ecological, scientific, social, cultural and heritage perspective, in Portugal

proTEJO
Movimento Pelo Tejo

"The ecocide of the Tagus River by new dams"

I. River connectivity (without barriers)

1. Risk of New dams and Transfers in Tagus River

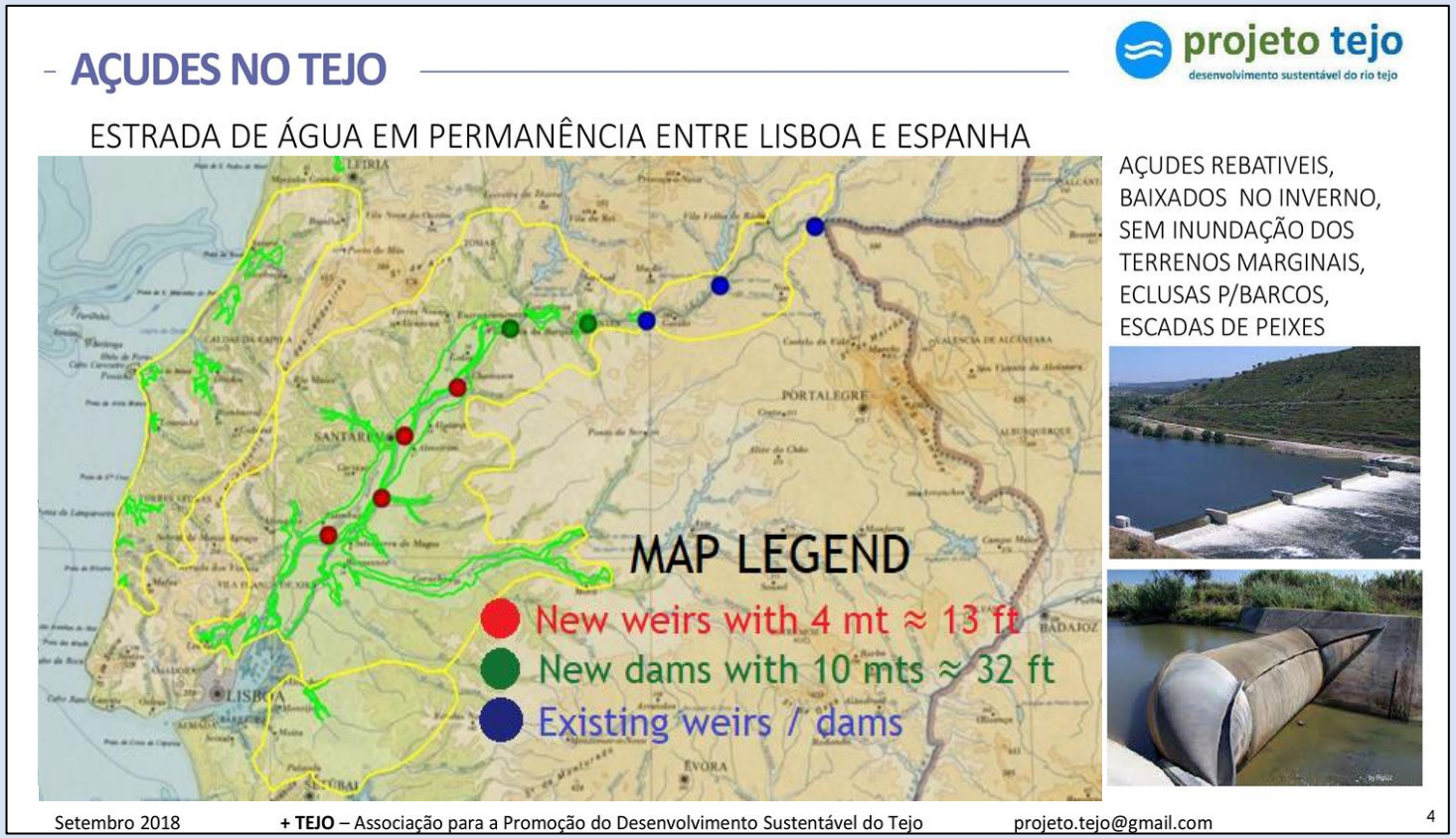
2. "Free the Nabão River" Potential Project

River Restoration, Environmental Education and Free Rivers

II. Biodiversity and Life Sustainability

1. New dams and Transfers in Tagus River

A. New Tagus Project - Hydraulic Harnessing for Multiple Purposes of the Tagus and West



Last 127 km of free Tagus River

2 New Dams and 4 New Weirs (Green + Red)

=

1.007 km from source

til the sea

Less (-)

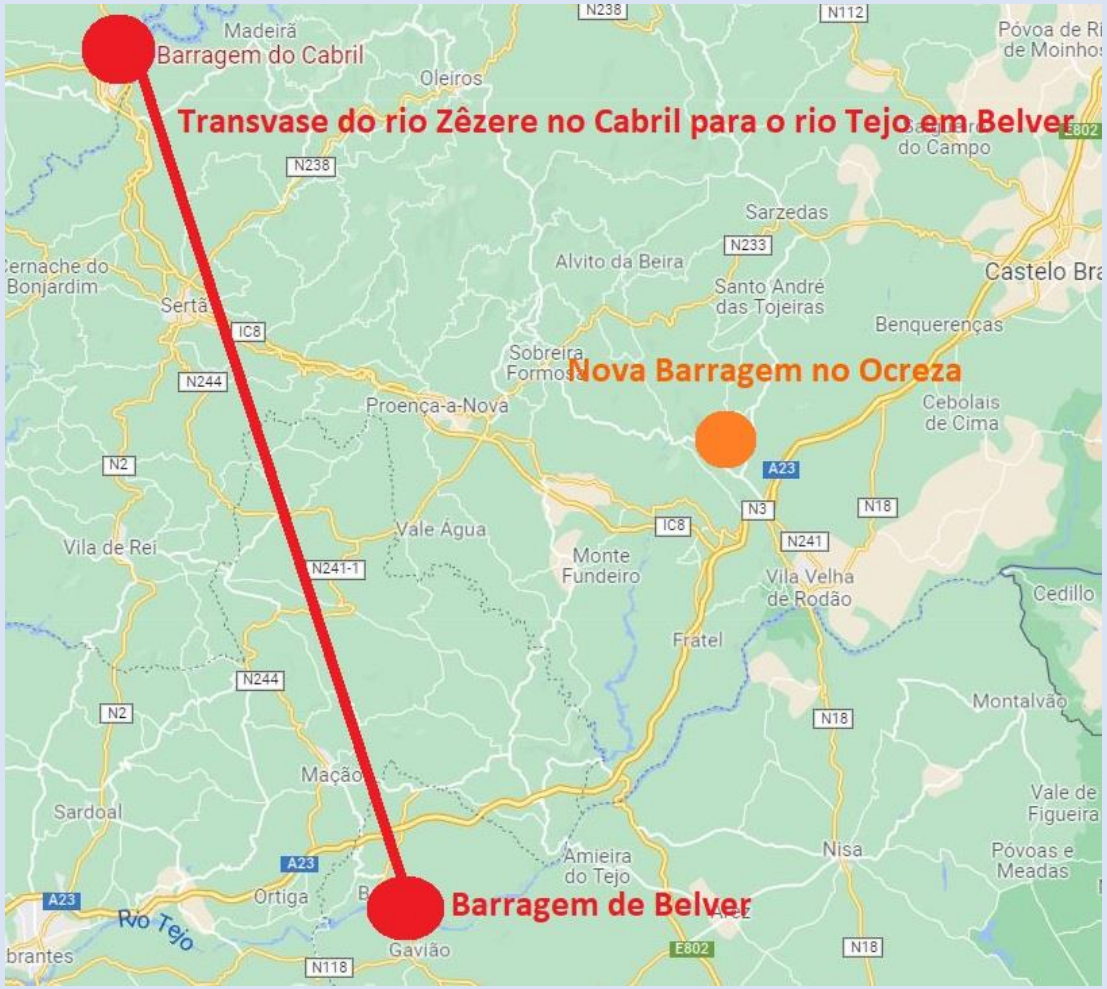
880 km of dams and weirs

1. New dams and Transfers in Tagus River

B. 1 Big Dam Ocreza

+

C. 1 Transfer from Zêzere River to Tagus River



1. New dams and Transfers in Tagus River

Ecological Negative Impacts

i. Worse water quality and less water quantity

ii. Fragmentation of habitats and ecosystems

iii. Blocking fish migration

iii. Loss of Biodiversity

iv. Ecological imbalances in Tagus estuary

(nursery of Atlantic ocean / shelter for migratory birds)

Credits: José Freitas

1. New dams and Transfers in Tagus River

What is in risk at the Tagus estuary?

Credits: José Freitas

1. New dams and Transfers in Tagus River

What is in risk at the Tagus estuary?

Credits: Raquel Vasconcelos

1. New dams and Transfers in Tagus River

What is in risk at the Tagus estuary?

P BIOLOGIA Documentário *Rios Urbanos* mostra "oásis de biodiversidade" dos estuários do Tejo e do Sado

Documentário *Rios Urbanos* mostra "oásis de biodiversidade" dos estuários do Tejo e do Sado

Realizador brasileiro espera que o documentário seja "o princípio do namoro entre os portugueses e a sua fauna marinha e fluvial".

A estreia está marcada para 2020, na conferência dos oceanos da ONU, em Lisboa.

André M. Nóbrega - 18 de Outubro de 2019, 7:06

Credits: Jornal Público

1. New dams and Transfers in Tagus River

Economic Irrationality

Huge cost – 5.000 M€

= 1/3 of European funds for pandemic crise

= 8 x agriculture VAB in the Tagus basin

CUSTOS INVESTIMENTO

projeto tejo
desenvolvimento sustentável do rio tejo

SISTEMA PRIMÁRIO ..... **800 M€**
- Açudes rebatíveis Tejo 250 M€
- Barragens 550 M€

SISTEMA DO BAIXO TEJO (210.000 ha) ..... **1.950 M€**
- Redes de adução e distribuição 500 M€
- Redes de rega 1.450 M€

SISTEMA DO MÉDIO TEJO (10.000 ha) ..... **100 M€**
- Redes de adução e distribuição 50 M€
- Redes de rega 50 M€

SISTEMA DO OESTE (40.000 ha) ..... **700 M€**
- Sistema de adução e distribuição 420 M€
- Redes de rega 280 M€

SISTEMA DE ALENQUER LOURES (20.000 ha) ..... **300 M€**
- Sistema de adução e distribuição 150 M€
- Redes de rega 150 M€

SISTEMA DE SETÚBAL (20.000 ha) ..... **250 M€**
- Sistema de adução e distribuição 100 M€
- Redes de rega 150 M€

DEFESA CONTRA CHEIAS ..... **300 M€**
- Diques e Marachas
- Ribeiras e Comportas
- Estações Elevatórias Enxugo e Valas

DIVERSOS ..... **100 M€**
- Redes Viária e Elétrica
- Diversos

INVESTIMENTO FINAL 4.500 M€ - 15.000 €/ha
(Alqueva Atual 50% Pressão 2.350 M€ - 19.000 €/ha)

INVESTIMENTO INCIAL NO REGADIO 120 M€
- 1 Açude + 2 Blocos de Rega (2 x 6.000 ha = 12.000 ha)

PREÇO ÁGUA DE REGA 55 €/ha + 0,045 €/m^3
(Alqueva Pressão 55 €/ha + 0,059 €/m^3)

Setembro 2018 **+ TEJO** – Associação para a Promoção do Desenvolvimento Sustentável do Tejo projeto.tejo@gmail.com

1. New dams and Transfers in Tagus River

Interested Parts (Dam Lovers)

speculators with agricultural land - irrigated agriculture

cellulose industry (eucalyptus irrigation to burn for "biomass" energy)

cement industry- civil construction - public bankers – engineers – consultants

+

Governance Arc Political Parties
(major political parties)

Government's Agriculture Ministry

1. New dams and Transfers in Tagus River

Alternative - Water abstraction directly from the Tagus river

EPAL's Water Collection Station in Valada captures 240,000 m3/day of water by gravity at high tide without energy costs and at low tide using suction equipment.

Credits: EPAL

EPAL - Environmental Education: guided visit to the Valada Water Collection Station.

Lower Cost – 10 M€ - and scale economies allow to **reduce energy costs of water collection for agriculture.**

The Tagus River has enough water for this project?

No!!!

It is not acceptable to take the entire annual flow out of the river!

ACTION REQUIRED

Complaint to the European Commission against Portugal and Spain

Non-compliance with European Biodiversity Strategy 2030

The European Biodiversity Strategy 2030 **presents ecological restoration targets for ecosystems, namely rivers, in order to increase their connectivity.**

The European Commission has established:

- **the restoration of at least 25 000 km of rivers by removing obsolete barriers and restoring riparian ecosystems as a goal to be achieved under the European Biodiversity Strategy 2030.**

ACTION REQUIRED

Complaint to the European Commission against Portugal and Spain

Non-compliance with European Biodiversity Strategy 2030

New hydraulic works for the construction of dams and transfers increasing barriers to the connectivity of the Tagus River

=

Contradiction and perversion of the objectives defined by the European Union, subscribed by Portugal

ACTION REQUIRED

Complaint to the European Commission against Portugal and Spain

Non-compliance with European Biodiversity Strategy 2030

A further deterioration of the ecological status of the water bodies of the Tagus River and, for that reason,

- **prevents the achievement of the environmental objectives of WFD Article 4(1).**

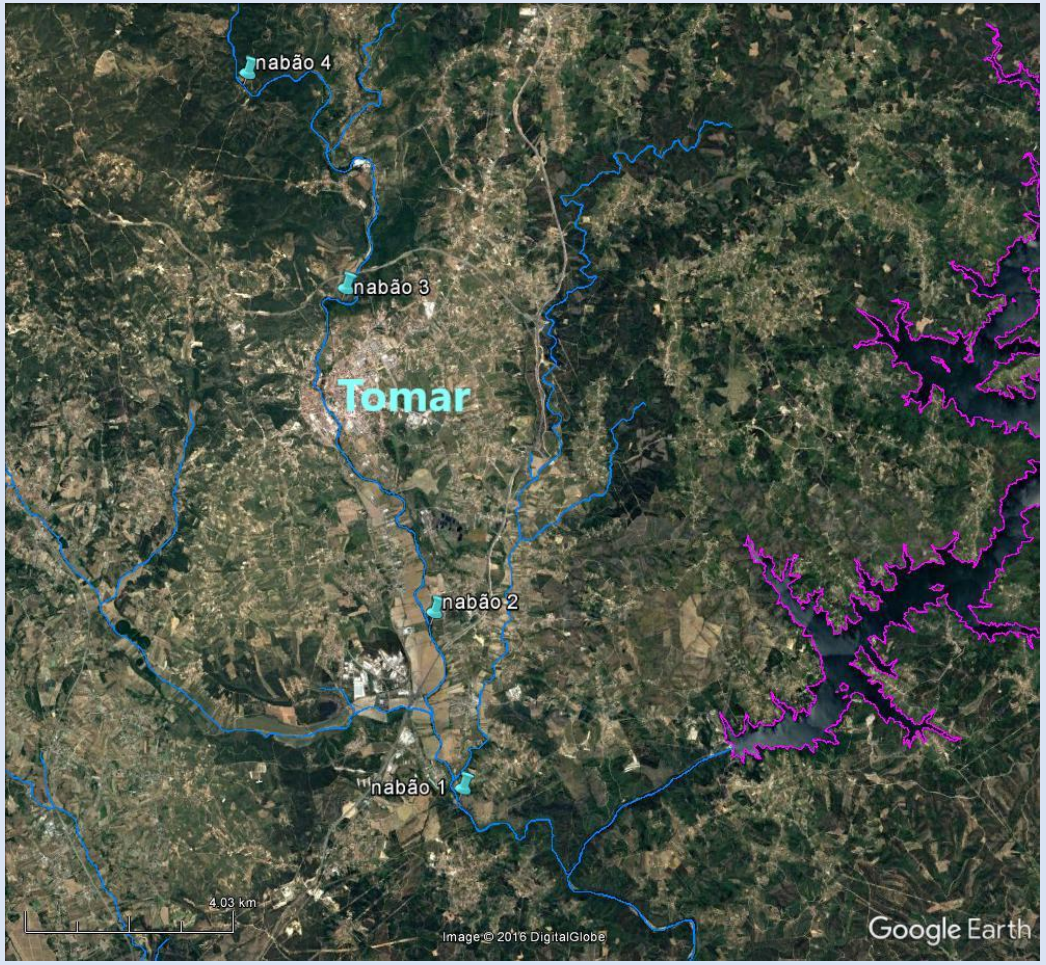
2. "FREE THE NABÃO RIVER" POTENTIAL PROJECT
RIVER RESTORATION, ENVIRONMENTAL EDUCATION AND FREE RIVERS

Tagus river

1.007 km from the source to the Tagus estuary

2. "FREE THE NABÃO RIVER" POTENTIAL PROJECT
RIVER RESTORATION, ENVIRONMENTAL EDUCATION AND FREE RIVERS

Location of transversal infrastructures identified for assessment in the Nabão River



Source: Working Group of the National Water Council for the IDENTIFICATION, STUDY AND PLANNING OF REMOVAL OF OBSOLETE HYDRAULIC INFRASTRUCTURES , Lisbon, March 31, 2017

2. "FREE THE NABÃO RIVER" POTENTIAL PROJECT
RIVER RESTORATION, ENVIRONMENTAL EDUCATION AND FREE RIVERS

Objective – 26 km of a Free a Nabão River

1. Improve the conservation of water quality and quantity and the recovery of biodiversity, in particular migratory and non-migratory native freshwater fish species, contributing to the European Biodiversity Strategy 2030;

2. Involvement of the school community in river restoration

3. Design and build an Environmental Interpretation Center and create riverside leisure space at the site of the weirs to be removed

2. "FREE THE NABÃO RIVER" POTENTIAL PROJECT
RIVER RESTORATION, ENVIRONMENTAL EDUCATION AND FREE RIVERS

Potential Partners

proTEJO – Movement for the Tagus

Nature Association Portugal (ANP) / WWF

GEOTA - Spatial Planning and Environment Study Group

QUERCUS - National Nature Conservation Association

Engenho e Rios

(enterprise for river rehabilitation with natural engineering techniques)

Potential Partners to Engage

Municipality of Tomar

Portuguese Environment Agency

World Fish Migration Foundation

Dam Removal Europe

2. "FREE THE NABÃO RIVER" POTENTIAL PROJECT
RIVER RESTORATION, ENVIRONMENTAL EDUCATION AND FREE RIVERS

Why starting with the Removal of Matrena Weir?

1. The Matrena weir blocks the ascent of fish, eel, shad and lamprey, and its is strategic to allow fish to spawn upstream of the Nabão River:

   i. fish that go up the Tagus River and enter its tributary river Zêzere, with cleaner waters, are blocked by the Castelo do Bode dam, which is impassable,

   ii. the only option is to go up the Nabão river, an affluent of the Zêzere river, but they soon find the weir of Matrena that prevents them from going up the river.

2. "FREE THE NABÃO RIVER" POTENTIAL PROJECT
RIVER RESTORATION, ENVIRONMENTAL EDUCATION AND FREE RIVERS

Removal of the Matrena Weir and the impact on Tagus basin

2. "FREE THE NABÃO RIVER" POTENTIAL PROJECT
RIVER RESTORATION, ENVIRONMENTAL EDUCATION AND FREE RIVERS

Why starting with the Removal of Matrena Weir?

2. Matrena's paper factory became insolvent in 1999 and closed in 2013.

3. There are no other conflicting uses of the water or the water mirror, except an eventual construction of a hotel and the existence of a hydroelectric energy injection point

+ river connectivity and extend the progression of fish species

Removal of the remaining weirs or fish passages construction,

Marianaia, Pedra, Tomar city, Prado and Porto de Cavaleiros weirs,

upstream of the Matrena weir

2. "FREE THE NABÃO RIVER" POTENTIAL PROJECT
RIVER RESTORATION, ENVIRONMENTAL EDUCATION AND FREE RIVERS

Nabão Weirs

Matrena Weir (1) - old Paper Factory + 5 km free river

Credits: proTEJO - Paulo Constantino

2. "FREE THE NABÃO RIVER" POTENTIAL PROJECT
RIVER RESTORATION, ENVIRONMENTAL EDUCATION AND FREE RIVERS

Nabão Weirs

Marianaia Weir (2) - old Paper Factory + 5 km free river

Credits: proTEJO - Paulo Constantino

2. "FREE THE NABÃO RIVER" POTENTIAL PROJECT
RIVER RESTORATION, ENVIRONMENTAL EDUCATION AND FREE RIVERS

Nabão River in Tomar City

City Weirs 1 / 2 / 3 – fish passages + 3 km free river

Credits: João Dias

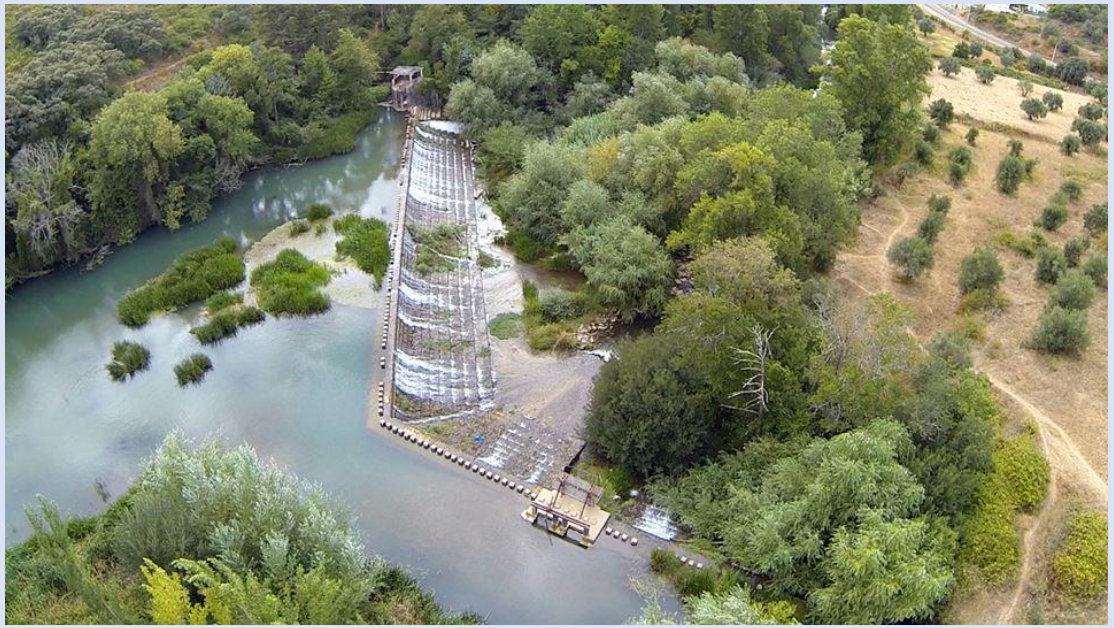
Credits: Silvia Bastos

2. "FREE THE NABÃO RIVER" POTENTIAL PROJECT
RIVER RESTORATION, ENVIRONMENTAL EDUCATION AND FREE RIVERS

Nabão Weirs

Pedra Weir (3) - old Spinning Factory + 3 km free river

Monument of Public Interest / ZEP, DR, 2nd series, no. 91 of 13 May 2013



Credits: Rádio Hertz

Credits: proTEJO - Paulo Constantino

2. "FREE THE NABÃO RIVER" POTENTIAL PROJECT
RIVER RESTORATION, ENVIRONMENTAL EDUCATION AND FREE RIVERS

Nabão Weirs

Prado Weir - old Paper Factory + 5 km free river

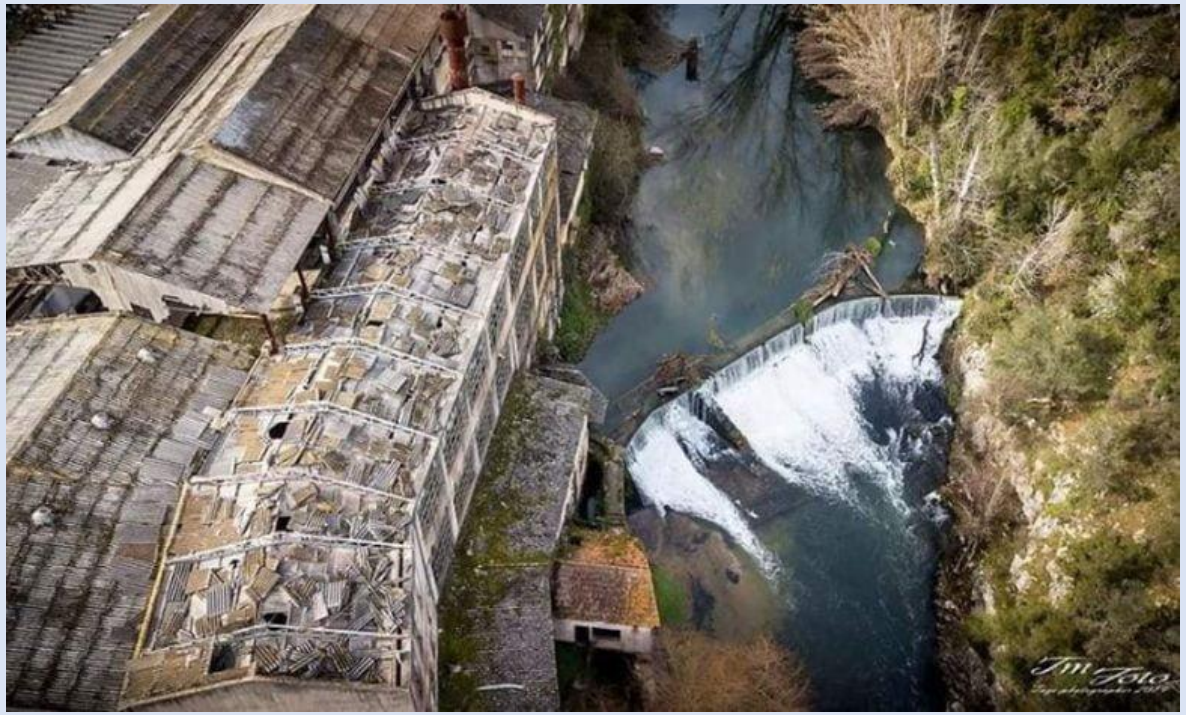
Credits: Natur Z

2. "FREE THE NABÃO RIVER" POTENTIAL PROJECT
RIVER RESTORATION, ENVIRONMENTAL EDUCATION AND FREE RIVERS

Nabão Weirs

Porto of Cavaleiros Weir (4) - old Paper Factory + 5 km free river

Credits: Green Trekker



Credits: TM Foto

2. "FREE THE NABÃO RIVER" POTENTIAL PROJECT
RIVER RESTORATION, ENVIRONMENTAL EDUCATION AND FREE RIVERS

Location of infrastructure

Infrastructure	Water line	Hydrographic basin	County	Parish	Geographic coordinates (WGS84)
Porto de Cavaleiros Weir (4)	Nabão River	Tagus	Tomar	União das Freguesia de Além da Ribeira e Pedreira	8°25'44.05"W 39°39'26.52"N
Stone Weir (3)	Nabão River	Tagus	Tomar	União das Freguesia de Além da Ribeira e Pedreira	8°24'24.49"W 39°37'12.19"N
Marianaia Weir (2)	Nabão River	Tagus	Tomar	São Pedro de Tomar	8°23'12.48"W 39°33'49.28"N
Matrena Weir (1)	Nabão River	Tagus	Tomar	Asseiceira	8°22'49.19"W 39°31'59.16"N

Source: Working Group of the National Water Council for the IDENTIFICATION, STUDY AND PLANNING OF REMOVAL OF OBSOLETE HYDRAULIC INFRASTRUCTURES , Lisbon, March 31, 2017

2. "FREE THE NABÃO RIVER" POTENTIAL PROJECT
RIVER RESTORATION, ENVIRONMENTAL EDUCATION AND FREE RIVERS

Location of infrastructure

Infrastructure	Height (m)	Fish passage	Building type	Purposes	Owner	License/concession
Porto de Cavaleiros Weir (4)	2-3	No	Concrete	Weir of an old factory. No current use	Unknown	Status unknown. It is unknown whether there has ever been a reversal to the state
Stone Weir (3)	1	No	Stone masonry	No current use, it is possible that it is still used for irrigation.	Unknown	Status unknown. It is unknown whether there has ever been a reversal to the state
Marianaia Weir (2)	2,5	Yes / Bad	Concrete	Weir of an old factory. No current use	Unknown	Status unknown. It is unknown whether there has ever been a reversal to the state
Matrena Weir (1)	4	No	Concrete	No current use	Unknown	It was aquired recently for transformation in a hotel. For the Matrena weir, there is a request for a concession for the production of electric energy submitted by the current owners of the Factory, dated 2010. DGEG communicated that the aforementioned electric energy production facility is able to reconnect to the public service electric grid. and to be licensed.

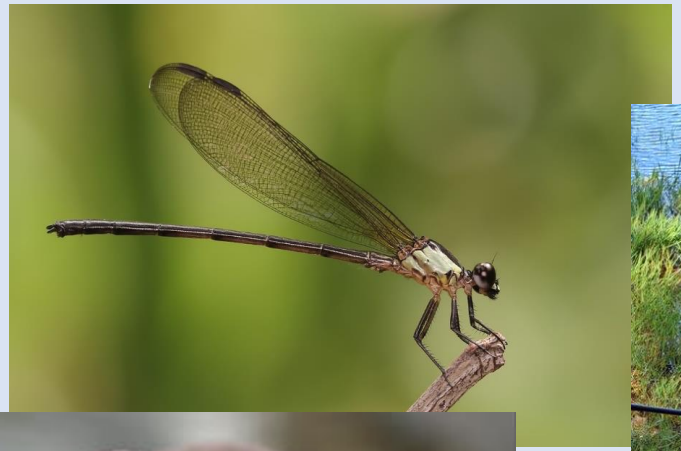
Source: Working Group of the National Water Council for the IDENTIFICATION, STUDY AND PLANNING OF REMOVAL OF OBSOLETE HYDRAULIC INFRASTRUCTURES , Lisbon, March 31, 2017

AND WHY ARE

FREE AND ALIVE RIVERS

SO IMPORTANT?

II. Biodiversity and Life Sustainability



II. Biodiversity and Life Sustainability

The role of free rivers

a. Contribute to safeguarding and restoring biodiversity;

b. Maintenance of ecological cycles and the sustainability of life through the services that ecosystems provide to society.

Dams and weirs add negative pressures on biodiversity, which requires:

a. ***Ecological vision*** capable of identifying ***alternatives for action on the supply and demand of water***;

b. ***Achieve a balance between satisfying human needs and conserving biodiversity*** to ensure continuity of the proper functioning of the ***vital cycles that sustain Life***.

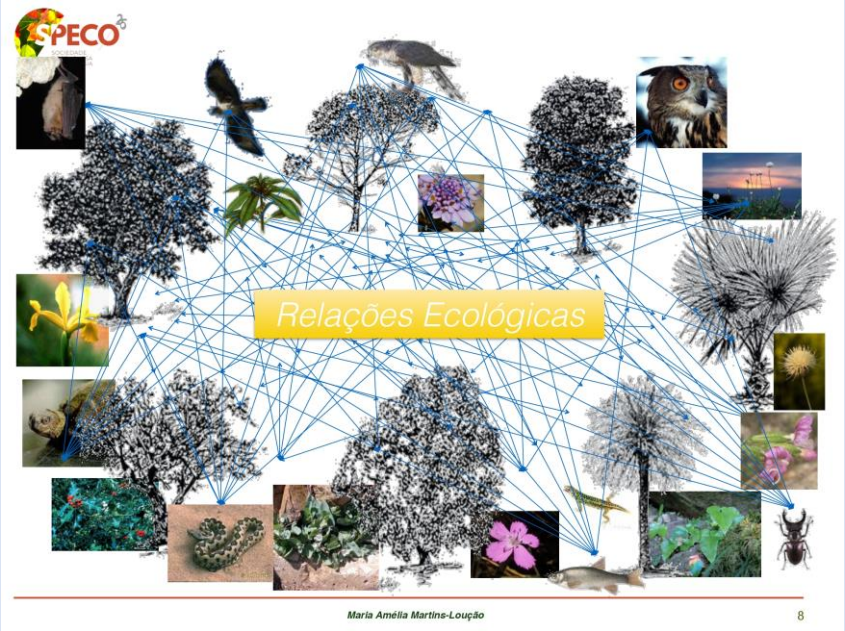
II. Biodiversity and Life Sustainability

Biodiversity as the basis of ecosystems provides services of greater importance to society, namely,

- *the **provision, regulation and purification of water**, which must be integrated and valued in environmental assessment and social well-being*.

"We must preserve every bit of biodiversity as invaluable as we learn to use it and understand what it means to humanity."

Edward O. Wilson



CONNECTED RIVERS

International seminar on scaling up dam removal as a river restoration tool in Europe.

19 - 21 May
19th and 20th - Seminar
21st - Fieldtrip
2022
LNEC, Lisboa

DAM REMOVAL EUROPE

PROGRAM

10:00 am - "The fish species of the Tagus River" - Living Science School

10:00 am – "Native Fish Project" – Native Fish Project - Carla Santos

10:20 am – "The conservation of fish in our rivers" - Red Book of Freshwater and Migratory Fish - Isabel Domingos and Filomena Magalhães

10:40 am – "The story of Frankenstein on the Tagus River! How invasive fish threaten our migratory fish" – Project "MEGAPREDATOR" – MARE | Center for Marine and Environmental Sciences / Polytechnic Institute of Santarém – Higher Agricultural School - Filipe Ribeiro and João Gago

11:00 am – Transport by bus
Living Science School for the pier on the Tagus River on Avenida dos Plátanos

11:30 am – Scientific Fishing Demonstration (electric fishing)
Identification, measurement, weighing, environmental characterization and collection of fish tissues
Demonstration of scientific sampling techniques, netting, light traps and gillnets

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DAM REMOVAL EUROPE

DIA MUNDIAL DA

MIGRAÇÃO DOS PEIXES

WORLD FISH MIGRATION DAY
21 Maio

TEJO Vila Nova da Barquinha

9h30 Educação Ambiental
Escola Ciência Viva

11h30 Pesca Científica
Cais da Avenida dos Plátanos

SOUSA Lousada

9h15 Caminhada (3 Km) e Pesca Científica - à descoberta da paisagem protegida do Sousa Superior
Parque de Vilela, Aveleda

proTEJO Movimento Pelo Tejo

#MovRioDouro

RIOS LIVRES GEOTA

DIA MUNDIAL DA

MIGRAÇÃO DOS PEIXES

WORLD FISH MIGRATION DAY
21 Maio

PARTICIPE NAS ATIVIDADES!

JUNTOS A CELEBRAR A BIODIVERSIDADE E OS RIOS:

RIOS LIVRES GEOTA

#MovRioDouro

proTEJO Movimento Pelo Tejo

Barquinha município

Agrupamento de Escolas de Vila Nova da Barquinha

centro integrado de educação em ciências barquinha

Escola Ciência Viva

paisagem protegida local sousa superior

PEIXES DULCÍCOLAS

MARE

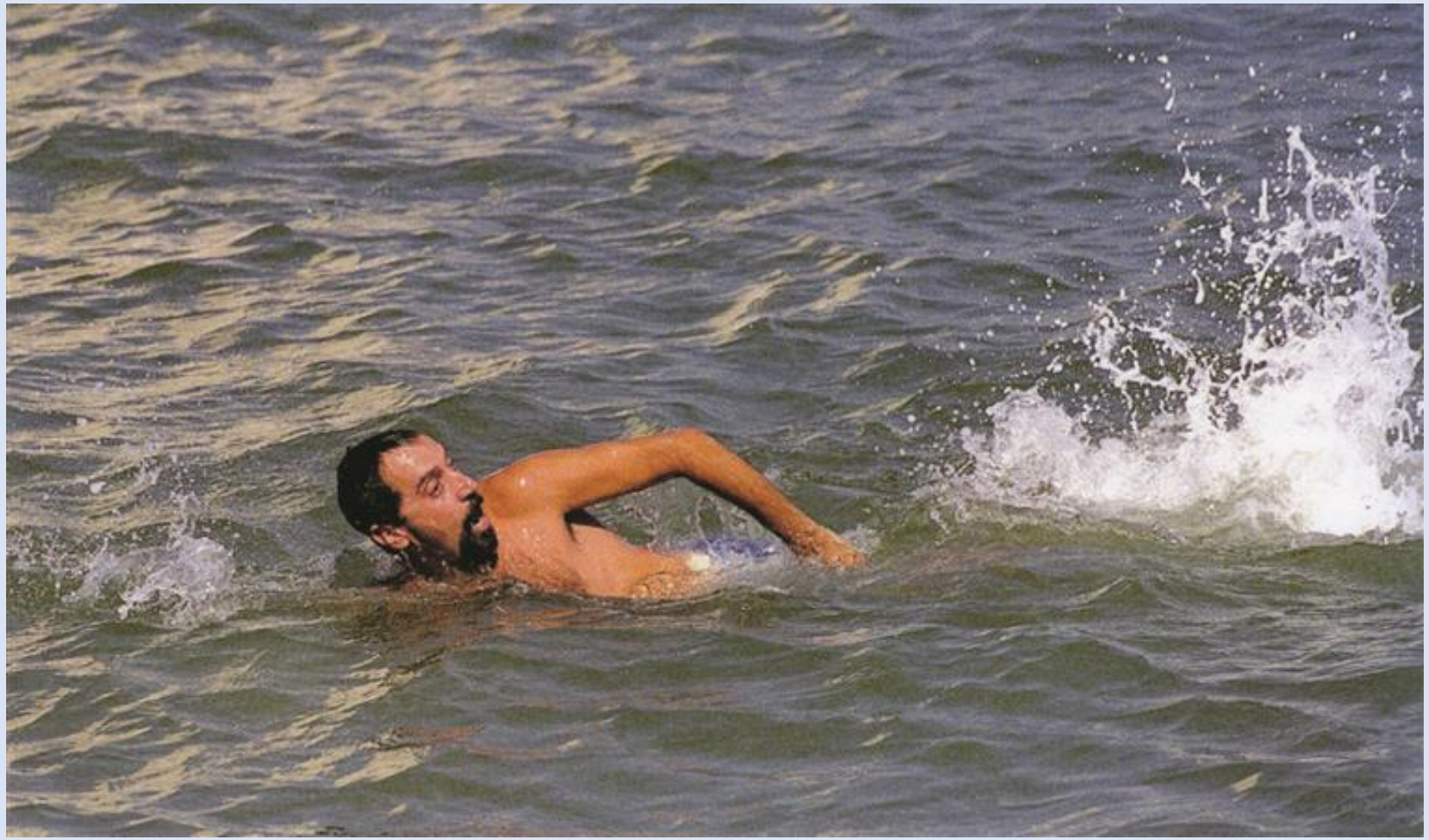
LIVRO VERMELHO DOS PEIXES

POLITÉCNICO DE SANTARÉM ESCOLA SUPERIOR AGRÁRIA

FCT Fundação para a Ciência e a Tecnologia

Let’s Dive into a Living Tagus?

Let’s join the President?



But Before…


SAVE OUR RIVER
DON'T STOP THE FLOW
Tajo
Tejo
Portugal
rede do Tejo
red del Tajo
Spain

CONTACTS

Spokes persons

Ana Silva (+351922273439)

Paulo Constantino (+351 919 061 330)

Site: http://protejo.pt

Blog: http://movimentoprotejo.blogspot.com

Email: proTEJO.movimento@gmail.com

Grupo: http://groups.google.com/group/proTEJO

Distribution Group: proTEJO@googlegroups.com

proTEJO in Facebook: http://www.facebook.com/movimentoprotejo

Adhere to the proTEJO Cause in Facebook: http://www.causes.com/proTEJO

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DAM REMOVAL EUROPE

TANK YOU

AND HAVE A NICE SEMINAR!