



A large crowd of diverse people is gathered in the foreground, many with their hands raised in a gesture of celebration or protest. In the background, an orange excavator is positioned on a rocky embankment, actively demolishing a concrete dam structure. The scene is set in a wooded area with trees and a small stream visible. The entire image has a blue color cast.

 **DAM
REMOVAL
EUROPE**



What is our ambition?



Healthy free flowing rivers, full of fish, offering precious ecological services and to create balance between people and nature. In order to succeed, we need to join hands and ensure that the removal of redundant and damaging dams becomes common practice across Europe.



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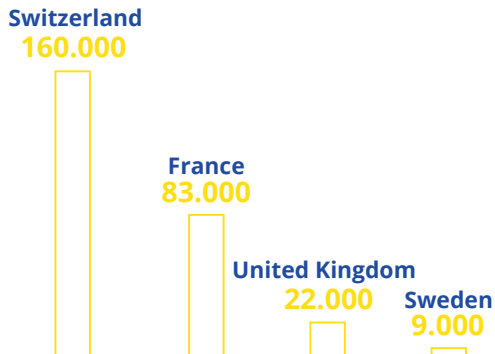


WHAT IS THE PROBLEM?

Dams and barriers really harm our watercourses and change their ecology

A variety of structures, in staggering numbers

Throughout Europe there are large and small hydropower dams, weirs, barriers, old mills, rip rap, dykes and dams supporting abstractions. Nowadays hundreds of thousands of small and big barriers fragment our European rivers and therefore are a major cause of hydrological change, habitat disconnection and the loss of plant and animal species.



Registered barriers per country (+0.5m)



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Biodiversity decline due to dams: the great loss of migratory fish

Dams, small and large, alter or block fish migration. They turn dynamic flows into reservoirs of still water with the loss of habitats and reproduction sites. All over the world, Salmon, Eel, Shad, Lamprey, Sea trout, and Sturgeon are disappearing. In the Rhine and Thames catchments and in many others, the salmon population dwindled from plentiful runs to extinction in the 19th century. Although fish ladders can mitigate some problems, the accumulation of obstacles can massively hinder their collective effectiveness. The most effective solution for fish migration is always the removal of redundant structures.

Good news there are now better options than maintaining old dams.

• In many cases, dams are necessary for society. But nowadays, there are better and less environmentally harmful options to provide electricity: solar and wind energy are cheaper and less harmful. Restoration of floodplains is increasingly used to prevent floods and help society to become more climate change resilient. With these alternatives more and more available we can replace many older barriers with smart solutions that didn't exist 50 years ago. This is good news for our living rivers for four reasons.



Economics

It has been demonstrated that dam removal is generally cheaper than repairing old dams or constructing fish passage structures. Moreover, studies show that, in some rivers, the loss of income caused by the loss of fish stocks and the socioeconomic benefits they support can be greater than the value of hydropower.



Existing legislation

The Water Framework Directive is an excellent tool to promote river restoration. By 2027, the “water bodies” in Europe must reach “good ecological status”, and this reinforces restoration of river continuity.



Safety

All dams have a functional lifetime after which they become a risk, and it is therefore important to review all unused, non-functioning or abandoned dams, to avoid hazards arising from dam failures.



Environment

Dams impact every aspect of healthy rivers, by transforming rivers into a series of impoundments. Hydrological and sediment dynamics are often severely modified, causing channel erosion downstream and incision upstream. Nutrients and sediments dynamics change and their transport downstream to lower rivers and deltas can be seriously modified.



Hydro- electricity: a green myth and a continuing threat for the last free flowing rivers

Around 50 % of the existing dams in Europe have been built for hydropower purposes. Hydropower is not always a green source of energy, as it is generally portrayed, because it often brings environmental impacts. Hydroelectricity is indeed renewable, however it also brings a range of potentially adverse impacts including hydropeaking, the sudden release of flash flows, entrainment of biota, and river reaches depleted of flow. It is incompatible with rivers natural equilibrium. Moreover, the impounded reservoirs emit greenhouse gases. All of these effects are now common knowledge but new structures are still being planned all over Europe, especially in the Alps and the Balkans, often with little regard for their environmental impacts.

Promising examples of dam removal across the world

We need to restore our rivers continuity. The United States has been the first to get rid of outdated dams and in the recent past 1,200 structures have been removed. The most spectacular success has been the removal of two large dams (35 and 60 meters high) on the Elwha River where, as a result of this, thousands of Pacific salmon have returned after a century of absence. On the Touques River, in Normandy, 5,000 sea trout are back after a series of dam removals. When they are freed in this way, rivers quickly recover their original bounty and generate a new sustainable economy, with recreational fishing, white-water sports, hiking, and the return of small farmers.

To view more case studies, go to: damremoval.eu/case-studies

In Europe, there have been many dam removal and river restoration programmes

The Water Framework Directive is an excellent tool to promote river restoration. By 2027, the “water bodies” in Europe must reach “good ecological status”, and this reinforces restoration of river continuity. In France, more than 1,800 small structures have been removed in recent years, and there are plans to dismantle two of the biggest dams ever removed in Europe, on the Sélune Basin, Vezins and La Roche qui Boit. This will completely reshape the old Poutès dam on the Upper Allier. Sweden has removed 1,400 dams and barriers, and Spain and the UK both more than 200. Thousands more are waiting for removal, to deliver benefit for rivers, biodiversity, and rural and urban communities.

To view the Dam Removal Europe map go to: damremoval.eu/dam-removal-map-europe



Restoring river connectivity
by the removal of obsolete
dams. A new step to restore
our rivers. Obsolete dams,
Cut them out.

Dam Removal Europe partnership:



Text

Roberto Epple (European Rivers Network)
Martin Arnaud (European Rivers Network)

Editing

Pao Fernández Garrido (World Fish Migration Foundation)
Peter Gough (World Fish Migration Foundation)
Jeroen van Herk (LINKit Consult)
Ruedi Bösiger (WWF)
Bart Geenen (WNF)
Amy Greve (WNF)

Design

Bas Deelman (World Fish Migration Foundation)

For more information

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