



FFAM: French Federation of Associations for the Protection of Mills

Versailles, September 29, 2023

Council of the European Union
Representatives of the European Parliament
Representatives of the European Commission

Subject: Proposal to revise Article 7 of the "*Nature Restoration Law*" which, in its current form, will have significant negative impact on water resources and nature

An « artificial barrier » to be destroyed (mill dam)



A « natural barrier » to be conserved (beaver dam)



Dear members of the Council of the European Union, representatives of the European Parliament and representatives of the European Commission,

As the French Federation of Associations for the protection of Mills representing over 100 associations in France, we are calling for a revision of article 7 of the "nature restoration law" which, in its current form, would commit EU member states **to destroying thousands of water reservoirs, the so called "*artificial barriers*", to create 25,000 km of "*free-flowing rivers*".**

These "*artificial barriers*" are mainly made up of the tens of thousands of small water mill dams and pond dikes that have been installed all along Europe's rivers since the Middle Ages. They hold back billions of m³ of water and play an essential role in storing water in alluvial and deep aquifers. They represent an ancient and unique heritage shared by all European countries, and as such deserve special attention.

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1- The French experience after nearly 10 000 mill dams destruction...

France has been a pioneer in small dams' destruction. According to public data from the OFB (the French Office for Biodiversity), nearly 10 000 small dams, mainly ancient water mill dams, have been "partially" or "totally" destroyed over the last 12 years (all references are presented in the 2 attached documents). Hundred of millions of public funds have been spent to carry out this policy.

In 2021, following a report by Senator Guillaume Chevrollier from Mayenne, **French deputies and senators passed an article of law to ban those destructions because of the dramatic drying up they have caused on many French rivers as well as worsening water shortages under M. Macron presidency** (article 49 of the "*climate and resilience law*", registered on August 22, 2021).

In its document "*Biodiversity Strategy 2030: Removing Barriers to River Restoration*", published 6 months after this important vote in France, the European Commission didn't even mention it.

To correct this omission, in November 2022 our Federation sent to all MPs of the Environment Committee a 36-minute film on the "French experience" of removing small dams. The last 10 minutes of which includes the many speeches by deputies and senators justifying a halt to these destructions (this movie is available on youtube: "*stopping the destruction of watermills*").

Few weeks before the vote, our Federation sent the 2 documents attached to this letter to all MPs on the 3 committees involved in the "*nature restoration law*" (environment, agriculture and fisheries). On June 27, the European Parliament's Environment Committee rejected the entire project, including Article 7, after the Agriculture and Fisheries Committees had done likewise.

Being unfamiliar with the workings of European legislation, we did not communicate these documents to EU Member States. We apologize for this oversight. As the triologue is now meeting, we hope that those documents will help European Member States to better understand this issue and to revise Article 7.

The first document is a summary file on the subject, including French experience, numerous extracts from converging scientific studies showing the benefits of the presence of small dams in northern hemisphere, as well as key historical data, photographs and a press review of "dried-up" rivers in France during drought following the destruction of water mill dams.

The second document is a "note" by 5 of France's leading specialists in aquatic environments and water management who have published main works on this issue; setting out in simple terms the key role these tens of thousands of small dams play on **water resources** (both surface and groundwater), water quality, wetlands and aquatic environments, calling on MEPs to reject Article 7.



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- 2- From beaver dams to small human dams, european rivers have always been “fragmented” not “free flowing”

These 2 documents simply demonstrate that since the appearance of the beaver around 5 million years ago, European rivers have always been "fragmented" by small dams, not "free-flowing" (see photographs on pages 3 and 4 of first document). Pretending to restore nature by restoring “free flowing rivers” is simply irrelevant concerning European rivers.

Whether beaver dams or small human dams of same modest high, those hundreds of thousands of small dams are perfectly adapted to the marked seasonality of rainfall and flow in Europe where winter flood are followed by summer shortage.

In this respect, by increasing the volume of water in our river beds and slowing water runoff, these hundreds of thousands of small dams:

- 1- preserve billions of m3 of fresh water during summer droughts preventing rivers from drying up and generating "ecocides" (refer Press review p. 7 to 9, and photos p.10 on the first document)
- 2- mitigate flooding (refer to extracts from hydrogeologists Jacques Mudry and Pierre Potherat p.5)
- 3- improve water quality (refer to extracts from 4 scientific studies p.9 and more in bibliography)
- 4- and play a key role in the recharge of alluvial and deep aquifers (refer to 3 extracts from scientific studies p. 5 to 6 and elements on beaver dams p.3 and 4)

The “note” from the 5 French specialists (document 2) perfectly resume this main fact:

“The “fragmentation” by small dams (we insist on the size of these obstacles), formerly of beavers, then of mills or ponds, is thus a constant in the history of the rivers of the northern hemisphere, largely beneficial to the aquatic environments, which respond to the marked seasonality of rainfall and flow.”

The European Commission's document "Biodiversity strategy 2030: barrier removal for river restoration" states on p.19 to justify article 7:

“Considering the high level of fragmentation of European rivers, the removal of barriers is urgent and an important opportunity to decrease this pressure on rivers and related habitats and species.” (p.19)

Yet the European Commission is not unaware of the existence of beavers and their dams. On page 16 of the same document, we can read:

*“In some contexts, free-flowing rivers can be naturally impaired by woody debris, geological structures (e.g. valley confinement) and natural obstacles (e.g. waterfalls, **beaver dams**). **Such natural impediments are not to be considered barriers in the context of the Biodiversity Strategy** (see definition of barriers below).”*

Why should "beaver dams not to be considered barriers" when small "man-made dams" of same modest high should be ? Two North American scientific studies quoted on p.4 of the first document have compared the effects of small man-made dams with those of beavers and **concluded that their effects are broadly similar.**



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- 3- Canadian and United States Departments of Agriculture promote the construction of small dams to alleviate flood, reduce pollution and preserve water

All those elements are confirmed by Canadian Department of Agriculture which promotes the construction of small dams to alleviate flooding and reduce pollution, particularly nitrogen and phosphorus.

<https://www.thinktrees.org/wp-content/uploads/2019/07/WEBS-Fact-Sheet-7-Small-Dams-Reservoirs.pdf>

Quote: "Small on-farm earthen dams can reduce downstream peak flows and associated flooding in agricultural watersheds, and can significantly reduce sediment, nitrogen (N) and phosphorus (P) loads to streams".

The United States Department of Agriculture, as well as numbers of American environmentalists, also promote the building of "small dams" to sustain water flow during dry season.

<https://www.climatehubs.usda.gov/hubs/northwest/topic/incised-stream-restoration-western-us#:~:text=An%20incised%20stream%20occurs%20when,and%20meadows%20to%20dry%20shrublands>

Quote: "The restoration of streams from beaver or simulated beaver dams allows short-term streams to become perennial or long-term flowing streams."

- 4- Small rivers dams play a key role in water storage, longitudinal and lateral continuity

These quotes from the "note" from the 5 French specialists to MPs give a better understanding of the key role played by these hundreds of thousands of small dams in storing water and preserving longitudinal and lateral continuity :

"The role of alluvial water tables has always been essential in maintaining the flow of lowland rivers because, in periods of drought, they give back to the river and the underlying water table some of the fresh water stored during the autumn and winter rains. A drop in the water level in the river of 1 meter, with a sediment porosity of 25%, will result in a loss of about 250,000 m³ of water per km² of floodplain after a few years."

"There is some confusion in the assessment elements put forward by the European Commission to justify the destruction of these water reservoirs. Restoring longitudinal continuity by destroying them has the immediate effect of lowering the water level of the main river and gradually emptying the alluvial water table. This lowering of the water level and of the water table endangers lateral continuity through the gradual drying up of the hydraulic appendages (ditches, diversion bays) as well as the associated wetlands."

- 5- Small dams benefit also to migratory fish

A final point worth emphasizing: dams on small rivers are also beneficial for migratory fish, as the scientific evidence presented on p.12 of the first document shows. By preserving large bodies of water during the summer drought, they enable young salmon to grow up and protect themselves from predators.



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6- Conclusion: article 7 need a revision

In its current form, article 7 of the "*nature restoration law*" planning to force European Member States to destroy water reservoirs on 25 000 kms of European rivers **will have major negative impacts on water storage, water quality, wetlands and will lead to the total or partial drying up of thousands of kilometers of rivers during drought as we experienced in France** (refer to press review on p.7 to 9 on first document).

Based on ideology opposing man to nature not science; destroying small "*artificial dams*" for the only reason that they have been made by man reflects a serious lack of understanding and a disregard for the ancient and recent history of our rivers. A garden, a pasture or a pond is home to more biodiversity than a wild forest. Yet they all have been created by the hand of man. By separating the "artificial" from the "natural" and legislating in favor of the "natural" (i.e. "wilde nature without man"), this article would set a dangerous precedent for Europe, pushing a logic that is clearly hostile to man. To "*man against nature*", we urgently need to oppose a logic of "*man with nature*", which is just the simple truth...

An 80 pages administrative document from ONEMA (now OFB for French Office for Biodiversity) and CEMAGREFF published in 2011 under the direction of Mr. Jean René Malavoi (geomorphologist and hydrologist) set out 12 potential negative impacts of dam removal to be assessed prior to any destruction. This document is available on French "trame verte et bleue" website from the French Ministry of Environment:

https://www.trameverteetbleue.fr/sites/default/files/references_bibliographiques/arasement-derasement-seuils-aide-definition-cahier_des_charges_2011_009.pdf

Among the 12 potential negative impacts that need to be assessed before considering dam removal, the following are mentioned:

- 1- **sinking of the upstream water table**
- 2- **mortality of part of the riparian vegetation whose roots will be exposed**
- 3- **reduction in the volume of refuge areas for fish during severe low-water periods**
- 4- **geotechnical deformation of buildings along the former reservoir**
- 5- **modification of biological populations**
- 6- **modification of physico-chemical processes**

In the light of all these converging elements, we propose a revision of article 7 to make it truly positive for man and nature. You will find our proposal just after this letter.

Demeurant à votre entière disposition à ce sujet, je vous prie d'agréer, Mesdames, Messieurs, l'expression de mes respectueuses salutations.

Pierre Meyneng
Président

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Proposal for a revision of article 7 of the “Nature Restoration Law”

p.47: “Article 3 Definitions

(14a) ‘free flowing river’ means a river or a stretch of river whose longitudinal, lateral and vertical connectivity *is ensured. Free-flowing rivers may be fragmented by small dams, including beaver dams, woody debris, mill dams or pond dikes or other small artificial dams as soon as they allow migratory fish to circulate if existing. ~~is not hindered by artificial structures forming a barrier and whose natural functions are largely unaffected;~~”*

p.21

“(45) The EU Biodiversity Strategy for 2030 requires greater efforts to restore freshwater ecosystems and the natural functions of rivers. The restoration of freshwater ecosystems should include efforts to restore the natural **█** connectivity of rivers as well as their riparian areas and floodplains, including through *modification, equipment or eventually* removal of artificial barriers with a view to supporting the achievement of favourable conservation status for rivers, *ponds*, lakes and alluvial habitats and species living in those habitats protected by Directives 92/43/EEC and 2009/147/EC, and the achievement of one of the key objectives of the EU Biodiversity Strategy for 2030, namely, the restoration of at least 25 000 km of free-flowing rivers, assessed against 2020 when the Strategy was communicated. When removing barriers, Member States should primarily address obsolete barriers, which are those that are no longer needed for renewable energy generation, inland navigation, water supply or other uses. **Before considering barriers removal, member states must assess its potential negative impacts on water resources, water quality, flood and biodiversity. In particular, the removal of barriers must ensure it won’t exacerbate drying up of rivers during summer droughts and preserve the level of alluvial watertable, and associated wetlands and biodiversity.**”

Article 7 “Restoration of the natural connectivity of rivers and natural functions of the related floodplains”

“1. Member States shall make an inventory of artificial barriers to **█** connectivity of surface waters and, taking into account their socio-economic functions, identify the barriers that need *to be modified or equipped to allow migratory fish to circulate if existing or eventually* removed, to contribute to the achievement of the restoration targets set out in Article 4 of this Regulation and of the objective of restoring at least 25 000 km of rivers into free-flowing rivers in the Union by 2030, without prejudice to Directive 2000/60/EC, in particular Articles 4(3), 4(5) and 4(7) thereof, and Regulation 1315/2013, in particular Article 15 thereof.

2. Member States shall *equip, modify or eventually* remove the artificial barriers to **█** connectivity of surface waters based on the inventory under paragraph 1 of this Article, in accordance with the plan for their *equipment, modification or eventual* removal referred to in Article 12(2), points (e) and (f). When removing barriers, Member States shall primarily address obsolete barriers, which are those that are no longer needed for renewable energy generation, inland navigation, water supply, flood protection, or other uses. **Before considering barriers removal, member states must assess its potential negative impacts on water resources, water quality, flood and biodiversity. In particular, the removal of barriers must ensure it won’t exacerbate drying up of rivers during summer droughts and preserve the level of alluvial watertable, and associated wetlands and biodiversity.**

3. Member States shall complement *the modification, equipment or* removal of the barriers referred to in paragraph 2, by the measures necessary to improve the natural functions of the related floodplains. “



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4. Member States shall ensure that **natural** connectivity of rivers and natural functions of the related floodplains restored in accordance with paragraphs 2 and 3 are maintained.

p.71 “Article 12 Content of the national restoration plans

(e) the inventory of barriers **and the barriers identified for removal** in accordance with Article 7(1), the plan for **modification, equipment or eventual** removal in accordance with Article 7(2) and **the length of free-flowing rivers to be achieved by the removal of those barriers** estimated from 2020 to 2030 and **2050**, and any other measures to re-establish the natural functions of floodplains in accordance with Article 7(3);”

p.94 “Annex 1”

The list below includes all terrestrial, coastal and freshwater habitat types listed in Annex I of Directive 92/43/EEC referred to in Article 4(1) and 4(2), as well as six groups of those habitat types, namely 1) Wetlands (coastal and inland), 2) Grasslands and other pastoral habitats, 3) River, lake, **ponds**, alluvial and riparian habitats, 4) Forests, 5) Steppe, heath and scrub habitats and 6) Rocky and dune habitats.

3. GROUP 3: River, lake, **ponds**, alluvial and riparian habitats