



Legal Protection of Free-Flowing Rivers

The need for strict site protection in the context of freshwater ecosystems

*Freshwater fishes in the context of the EU Biodiversity Strategy
Brussels – November 24, 2022 – Tobias Schäfer, WWF Germany*

Outline

1. Introduction
2. Legal protection schemes for free-flowing rivers in Europe – an overview
3. Conclusions and outlook



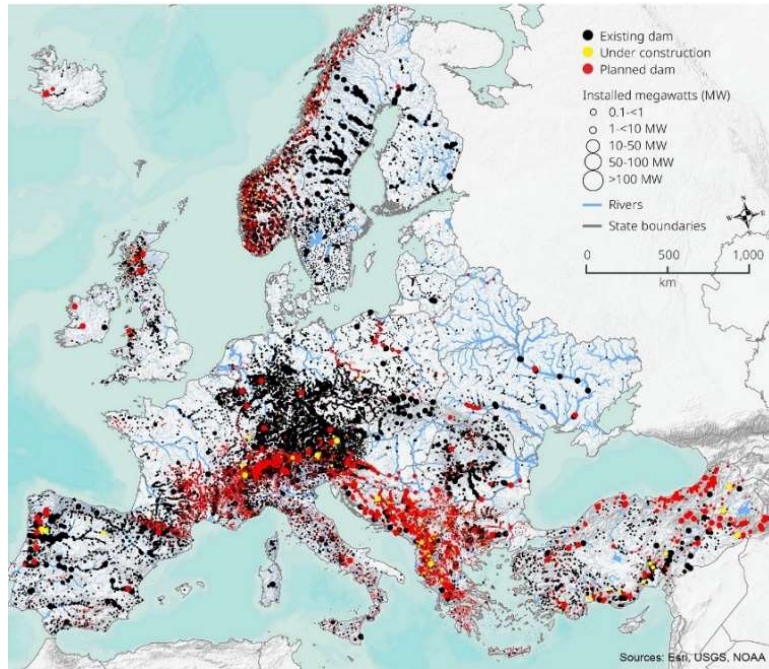


Key messages

- 1. Strict protection for rivers has to be based the on their free-flowing character**
(i.e. physical properties allowing essential dynamic processes)
„Connectivity is key“ / „Rivers are renewal“
- 2. Examples show that legal protection for free-flowing rivers is feasible and effective**
(while using different protection mechanisms)
- 3. Combining River Basin Management with strict protection is the way forward**
(WFD obligations can strictly protect rivers, but implemenation is insufficient)
- 4. Combining river restoration (barrier removal) with strict protection is essential**

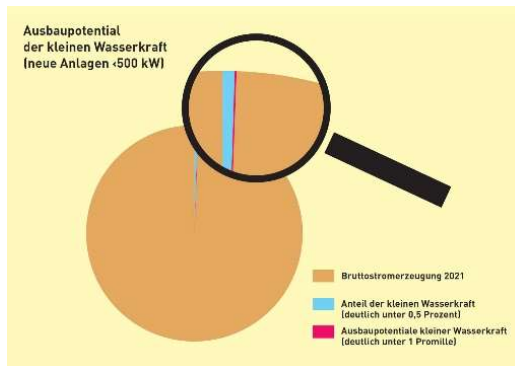


Hydropower and dams



„Overriding public interest?“

Potential of small scale hydropower in relation to electricity generation in Germany



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Article | Published: 16 December 2020

More than one million barriers fragment Europe's rivers

Barbara Belletti, Carlos Garcia de Leaniz, [...] Maciej Zalewski

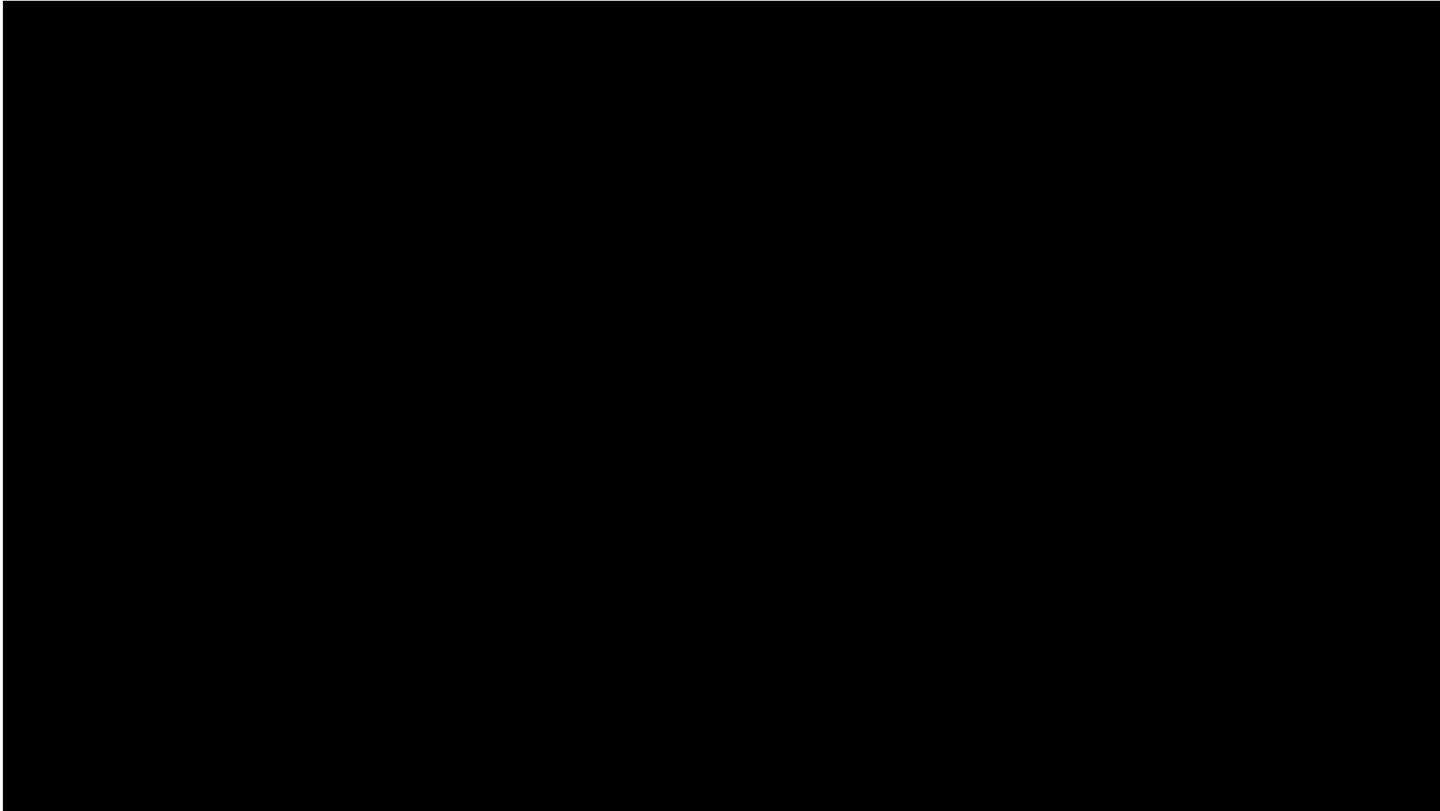
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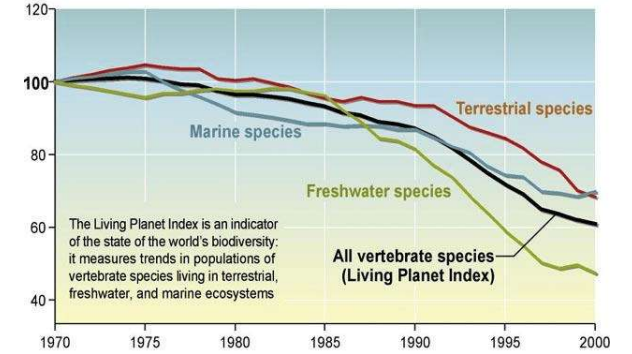




Freshwater Biodiversity Crisis

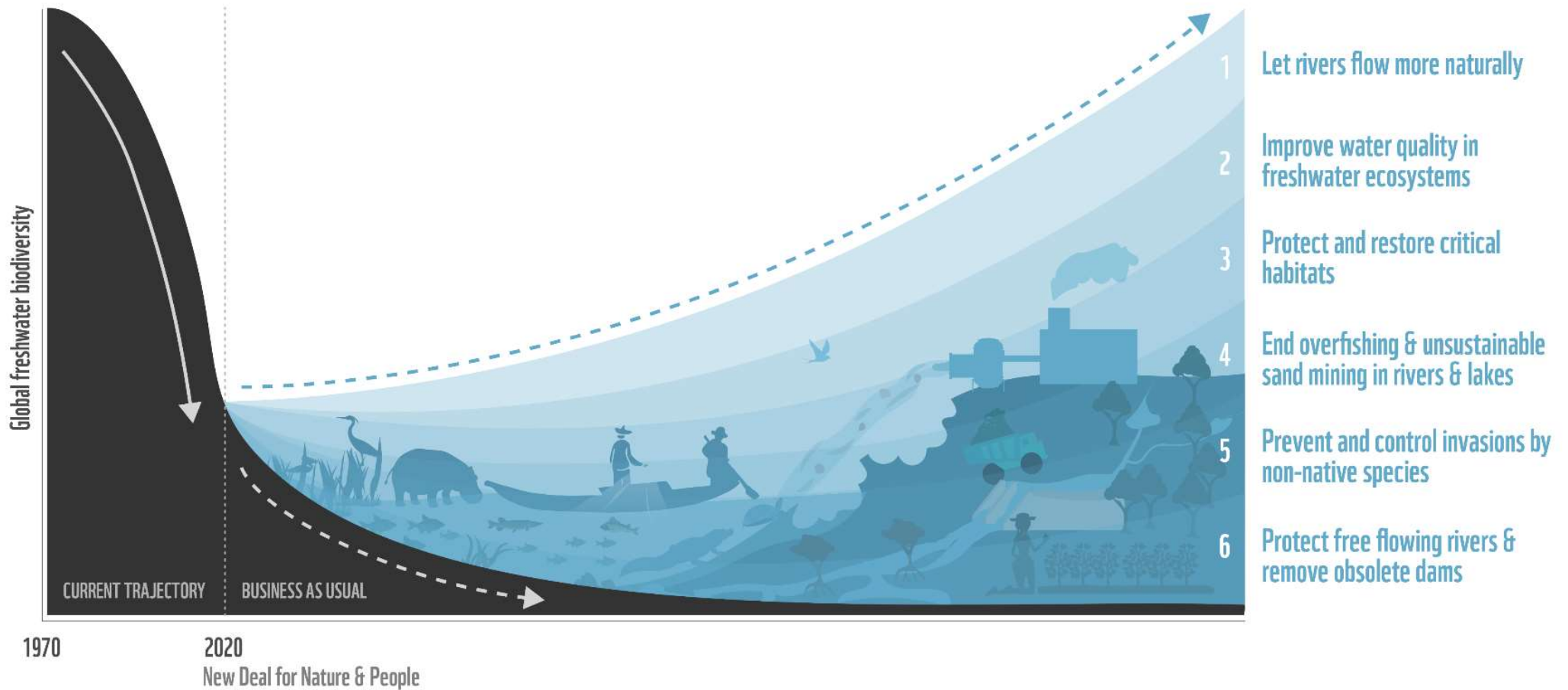


Population Index = 100 in 1970





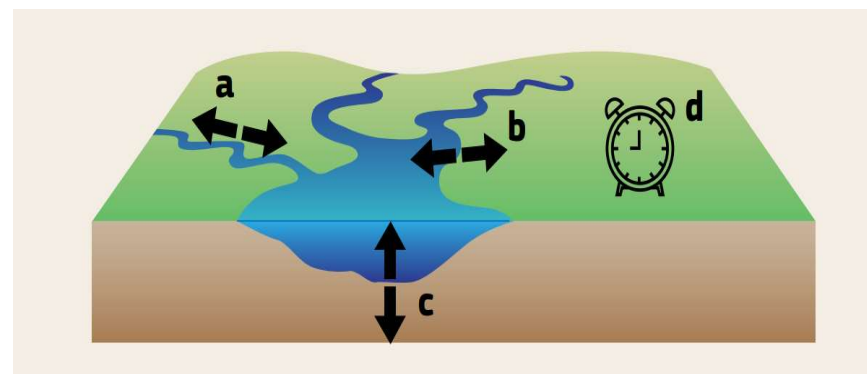
BENDING THE FRESHWATER BIODIVERSITY CURVE – AN EMERGENCY RECOVERY PLAN





Free-flowing rivers – connectivity is key

1. Rivers where **ecosystem functions and services are largely unaffected by changes to the fluvial connectivity** allowing an unobstructed movement and exchange of water, energy, material and species within the river system and with surrounding landscapes. Fluvial connectivity encompasses longitudinal (river channel), lateral (floodplains), vertical (groundwater and atmosphere) and temporal (intermittency) components (WWF & TNC 2021)



It is proposed to define a free-flowing river as one that supports connectivity of water, sediment, nutrients, matter and organisms within the river system and with surrounding landscapes, in all of the following four dimensions:

1. longitudinal (connectivity between up- and downstream);
2. lateral (connectivity to floodplain and riparian areas);
3. vertical (connectivity to groundwater and atmosphere);
4. temporal (connectivity based on seasonality of fluxes).

A free-flowing river is not impaired by anthropogenic barriers and is not disconnected from its floodplain when a floodplain is present (EU Guidance 2021).



2. Legal protection schemes for free-flowing rivers





Sustainability Special Issue (2021): Durable Protections for Free-Flowing Rivers

Open Access Article

Legal Protection Schemes for Free-Flowing Rivers in Europe: An Overview

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Academic Editors: Denielle M. Perry and Ian Harrison

Sustainability **2021**, *13*(11), 6423; <https://doi.org/10.3390/su13116423>

Received: 1 March 2021 / Revised: 12 May 2021 / Accepted: 13 May 2021 / Published: 4 June 2021

(This article belongs to the Special Issue Durable Protections for Free-Flowing Rivers)

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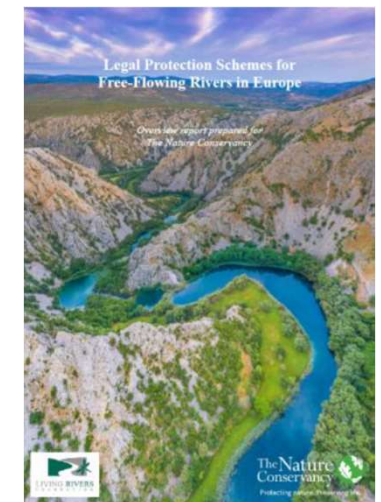
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Abstract

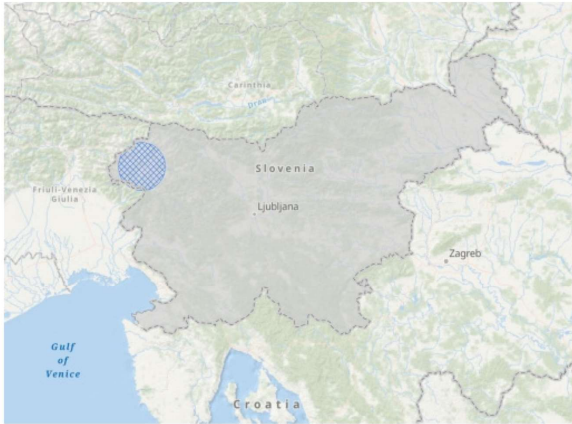
Most of Europe's rivers are highly fragmented by barriers. This study examines legal protection schemes, that specifically aim at preserving the free-flowing character of rivers. Based on national legislation, such schemes are found in seven European countries: Slovenia, Finland, Sweden, France and Spain as well as Norway and Iceland. The study provides an overview of the individual schemes and their respective scope, compares their protection mechanisms and assesses their effectiveness. As Europe's remaining free-flowing rivers are threatened by hydropower and other development, the need for effective legal protection, comparable to the designation of Wild and Scenic Rivers in the United States, is urgent. Similarly, any ambitious strategy for the restoration of free-flowing rivers should be complemented with a mechanism for their permanent protection once dams and other barriers are removed. The investigated legal protection schemes constitute a starting point for envisioning a more cohesive European network of strictly protected free-flowing rivers.

Keywords: free-flowing rivers; strict protection; protected areas; legal river protection schemes; river nature reserves; dam removal; river restoration; EU Biodiversity Strategy





Slovenia (1976)



TV OBZORNIK 18/05/1964

https://euscreen.eu/item.html?id=EUS_D28E065E73A6AC90455D70DC67C1C2AF



Slovenia (1976)

Table 1. Synopsis of the legal protection scheme for the Soča River in Slovenia.

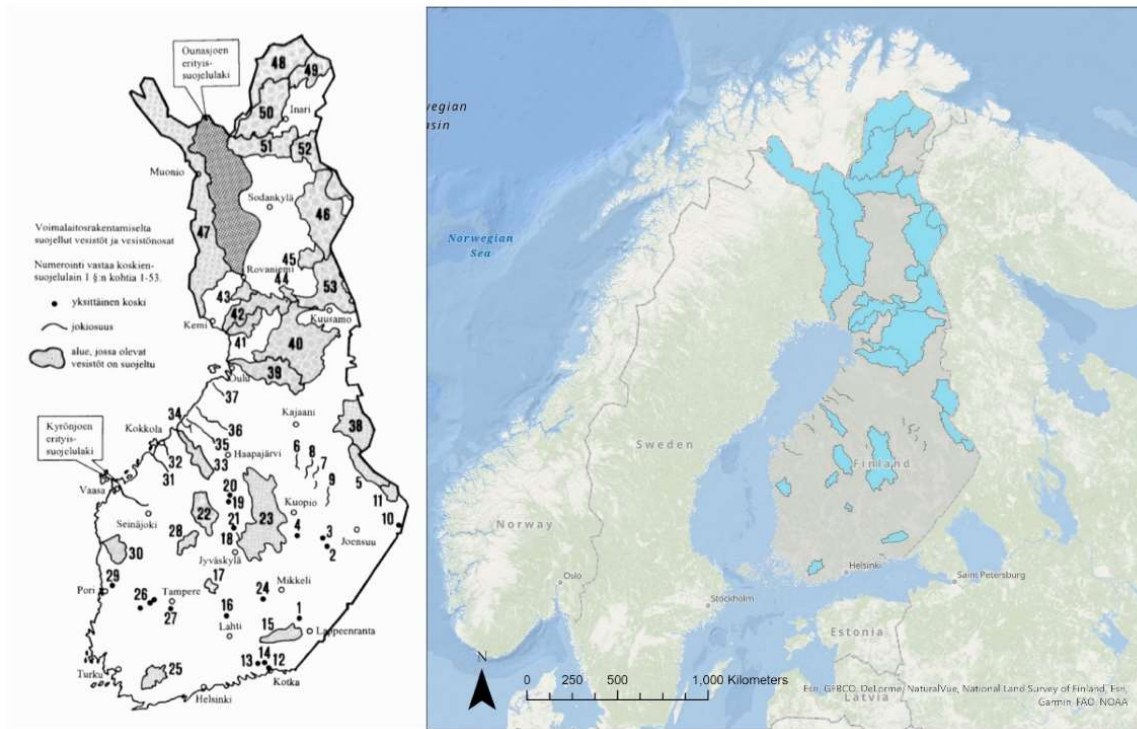
Legal Basis	Law on the Protection of the Soča River and Tributaries Slovenian: <i>Zakon o določitvi zavarovanega območja za reko Sočo s pritoki</i>
Year of origin	1976
Protection mechanisms	The protection scheme creates a protected area as well as a natural heritage site. It combines legal provisions on the state level as well as the municipal level: - Law on the Protection of the Soča River and Tributaries of 1976 (Official journal of the Socialist Republic of Slovenia No. 7/76) - Ordinance on the proclamation of cultural and historical monuments and natural sites in the area of Tolmin Municipality (Official Gazette of the Municipalities of Ajdovščina, Nova Gorica and Tolmin, no. 5/90)
Key quotes from the legal text	"This law establishes a protected area for the Soča River and its tributaries in order to protect the waters and the main features of the water regime, thus preserving the biological characteristics of the waters and the natural environment in the area" <p style="text-align: right;">(Art. 1).</p>
	"The protected area covers riverbeds and water and riverbank lands between the source and the confluence with the Idrijca river" <p style="text-align: right;">(Art. 2).</p>
	"The construction and reconstruction of water management structures or installations and the construction and reconstruction of other structures and installations that may affect the water regime or water quality are prohibited in the protected area. Any other act or omission likely to alter the water regime or water quality shall also be prohibited in the protected area, in particular ..." <p style="text-align: right;">(Art. 3).</p>
Comments	Potential exemptions are included in the law (Art. 3). The protected area was also included in Triglav national park through the Law on Triglav National Park of 1981. The Tolmin municipal ordinance of 1990 establishes the most stringent protection regime regarding potential exemptions.
Number of rivers	1 (plus tributaries)



Why is the Soča protected?



Finland (1987)



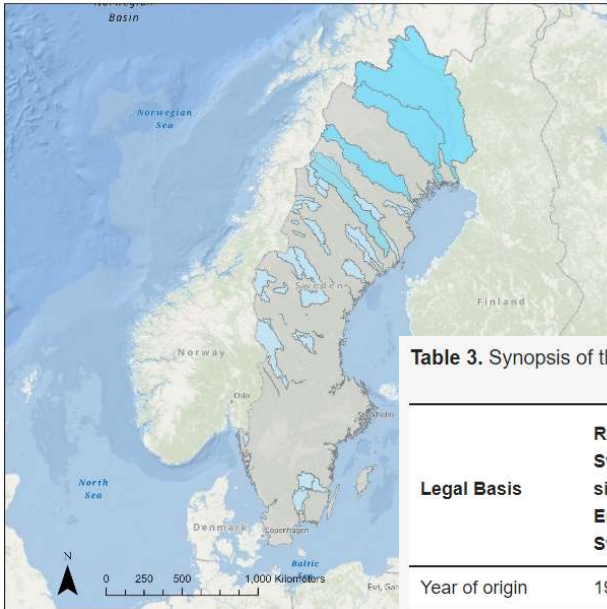


Finland (1987)

Table 2. Synopsis of the legal protection scheme for free-flowing rivers in Finland.

Legal Basis	Rapids Protection Act, Act. No 35/1987 Finnish: <i>Koskiensuojelulaki</i>
Year of origin	1987 (1983)
Protection mechanisms	The Finnish protection scheme consists of two components: 1. Permitting of hydropower projects is prohibited in the designated river stretches 2. Compensation payments to the owners of the respective water rights were made by the state. Payments were based on the economic benefit forgone, calculated by the land register office, and given out as a single payment). All compensation payments were completed by 2004.
Key quote from legal text	“For the construction of new hydropower plants, no permit required under the Water Act shall be granted concerning the following rivers or rivers stretches: ...” (Art. 1).
Comments	The Rapids Protection Act is the central piece of the Finnish protection scheme, designating 53 river stretches. Two other laws complement the scheme, each designating one river: Laki Ounasjoen erityissuojelusta (703/1983), on the Ounasjoki river Laki Kyrönjoen erityissuojelusta (1139/1991), on the Kyrönjoki river
Number of rivers	55

Sweden (1987)



<https://www.youtube.com/watch?v=qiv8ZhHbNEw>

Table 3. Synopsis of the legal protection scheme for free-flowing rivers in Sweden.

Legal Basis	Resources Management Act, Act No. 1987/12 Swedish: <i>Lag om hushållning med naturresurser (Naturresurslag)</i> since 1999: Environmental Code, Act No. 1998/808 Swedish: <i>Miljöbalk</i>
Year of origin	1987
Key quote from legal text	<p>“Hydroelectric power plants including water regulation or water transfer for power purposes shall not be carried out”</p> <p style="text-align: right;">(Chapter 4 §6).</p>
Protection mechanisms	Under the Swedish protection scheme, hydropower plants, including water regulation or water diversion for energy purposes, are prohibited in the designated river stretches and their floodplains as well as tributaries and source streams.
Comments	The Swedish river protection scheme was first introduced into the Natural Resources Act in 1987. The scheme was transferred to the Swedish Environmental Code, which replaced the Natural Resources Act and entered into force in 1999. The protection of tributaries and source streams was first included in 1999.
Number of rivers	26 (plus tributaries and source streams)

Spain (2005)



Table 4. Synopsis of the legal protection scheme for free-flowing rivers in Spain.

Legal Basis	Water Law Spanish: <i>Ley de Aguas</i>
Year of origin	2005
Protection mechanisms	The Spanish river protection scheme establishes River Nature Reserves (Spanish: <i>Reservas Naturales Fluviales</i>) as freshwater protected areas.
Key quote from legal text	"river natural reserves [shall be designated], in order to preserve, without alterations, those sections of rivers with little or no human intervention. These reserves will be strictly limited to assets in the public hydraulic domain" (Art. 42paragraph 1. b) c')
Comments	The Law on the National Water Plan in 2001 introduced the rather general option to create "hydraulic reserves." The Water Planning Regulation in 2007 specified objectives and functioning of the River Nature Reserves scheme.
Number of rivers	135

France (2006)



The year is 50 B.C. Gaul is entirely occupied by the Romans. Well, not entirely... One small village of indomitable Gauls still holds out against the invaders. And life is not easy for the Roman legionaries who garrison the fortified camp of Totorum, Azorum, Laudanum and Compendium...

Table 5. Synopsis of the legal protection scheme for free-flowing rivers in France.

Legal Basis	Code de l'Environnement Environmental Code, modified by the Law on Water and Aquatic Environments, Law No. 2006-1772 French: <i>Environmental Code and Loi sur l'eau et les milieux aquatiques,</i>
Year of origin	2006
Protection mechanisms	France follows a planning approach obliging River Basin Authorities to established lists of rivers as part of River Basin Management Plans under the WFD (so-called "list 1" rivers). River protection is established in three steps: 1. For each basin, "list 1" compiles a selection of rivers or river stretches that should be protected in order to maintain their very good ecological status or achieve good status or because of their importance as a biological reservoir or for migration of diadromous fish. 2. Legally binding protection for these rivers is established through prefectural decrees on the basin scale. 3. Permitting is prohibited for any project that would constitute an obstacle to river continuity.
Key quotes from legal text	"[In list 1 rivers,] no authorization or concession can be granted for the construction of new works if they would represent an obstacle to ecological continuity" (Art. L214-17).
Comments	Relicensing of existing facilities is subject to the same set of environmental objectives.
Number of rivers	There is no number of rivers available. In total, "list 1" rivers account for approximately 30% of all French rivers under WFD reporting requirements.



Protection mechanisms

Protection Mechanisms							
Establishing of protected areas	x			x			x
Designation of rivers/river stretches to which protections apply		x	x		x	x	x
Explicit inclusion of tributaries, headwaters and source streamsheadwaters and source streams	x		x				
Explicit inclusion of floodplains/riparian zones			x				
Explicit protection of continuity (fish migration, sediment flow)					x		
Comprehensive protection of river integrity	x			x	x		x
Explicit (or implicit) prohibition of hydropower permitting	(x)	x	x	(x)	x	x	x
Compensation payments		x					
Exemptions	X		x		x	x	
Planning Tools							
Strategic planning on national level							x
Integration into WFD River Basin Management Planning				x	x		

To what extent can the examined schemes count towards the EU Biodiversity Strategy’s goal of strict protection for 10% of EU land?



Strictly protected rivers – a European patchwork





Key findings from the overview study

- 1. We already have a system of legally protected rivers in the EU**
i.e. Slovenia, Finland, Sweden; Spain, France (linked to WFD)
new approaches are evolving, e.g. Croatia, Montenegro
- 2. The existing approaches are based on national legislation,**
were established in different decades, mostly in reaction to specific
threats, and appear rather disconnected from each other
- 3. A European approach is needed to combine river protection and
river revitalization (dam removal) more strategically**



Wild and Scenic Rivers in the US

1. Yellowstone National Park Protection Act (1872)

“the tract of land ... lying near the headwaters of the Yellowstone River dedicated and set apart as a public park or pleasuring-ground for the benefit and enjoyment of the people.”

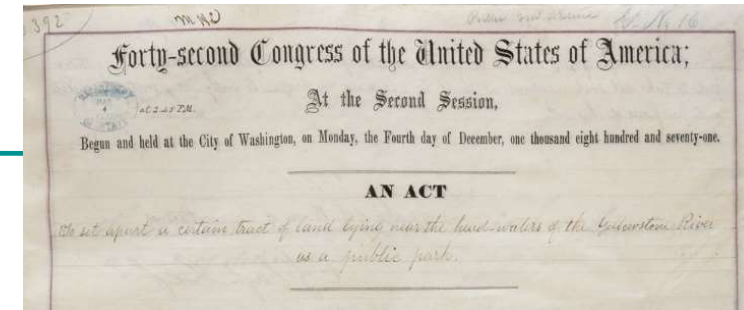
2. Wild and Scenic Rivers Act (1968)

“certain selected rivers ... shall be preserved in a free-flowing condition ... and protected for the benefit and enjoyment of present and future generations.”

3. Wilderness Act (1964)

"A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain."

Snake Headwaters designation in 2017 supported by anglers and rafters





3. Conclusions and Outlook

A pragmatic approach for identifying candidate rivers:

- **Key component: Free-flowing and dynamic**
- Outstanding values: At least one outstanding value in terms of biodiversity, geology, scenery, culture or history (cf. Wild and Scenic Rivers)
- Environmental condition: At least in good status according to WFD (cf. River Nature Reserves in Spain), possibly with exceptions, e.g., for rivers in urban settings.

Classification in three types (cf. River Nature Reserves in Spain or “list 1” and “list 2” rivers in France):

- (1) **free-flowing and wild/pristine**
- (2) **free-flowing and near-natural**
- (3) **free-flowing and restored**





Envisioning a System of Protected Free-Flowing Rivers for Europe

A policy to create a network of protected rivers would have to combine two essential elements:

- (1) **an overarching strategic planning approach** that identifies the needs for strict river protection and restoration action across the EU,
- (2) **an EU-wide legal approach that strictly protects wild and restored free-flowing rivers** from dams and other damage and aims at enhancing the vitality and ecological value of these rivers in order to keep them healthy, dynamic and free-flowing for the benefit and enjoyment of present and future generations





Why protect rivers? For the love of rivers!

A NEW BEGINNING FOR PEOPLE AND NATURE
#EUGreenWeek
20-22 OCTOBER 2020

Free-Flowing Rivers for Europe
Online River Film Sessions
at the EU Green Week 2020

Wednesday, October 21, 2020, 16:30-18:45

Conclusions – Free-Flowing Rivers for Europe

Conclusions from two online river film sessions with panel discussion at EU Green Week 2020, Oct. 21, 2020. Provided by session co-moderators **Tobias Schäfer**, Leibniz Institute of Freshwater Ecology and Inland Fisheries (IGB Berlin) and Living Rivers Foundation, and **Michael Bender**, flow : europe and EEB Water Working Group.

Session 1: Keep the Wild Wild!

- **Prospects for a European network of strictly protected rivers – healthy, dynamic and free-flowing:**

The EU Biodiversity Strategy provides new prospects for the vision of a European network of strictly protected rivers. This river conservation policy needs to aim at both protecting and restoring the key properties of rivers: Free flow, sediment dynamics, and connectivity in all dimensions.

- **Rivers and floodplains need to be recognized as biodiversity hotspots:**

In order to gain a better understanding and achieve better management, freshwater ecosystems should be regarded as a third realm (next to marine and terrestrial). In light of the sharp decline of freshwater life, defending dynamic and free-flowing rivers against infrastructure projects, including inland navigation projects (such as the E40 Waterway or along the Oder) is a key challenge for biodiversity policies in the EU and globally.

- **Living rivers depend on the energy that hydropower is aiming to extract from them:**

As shown by a recent study on freshwater fishes in the Mediterranean Basin, hydropower is a key threat to freshwater biodiversity through imposing barriers and degradation of river and stream habitats. The European Environmental Bureau (EEB) along with European NGOs is advocating the stopping of new hydropower projects in the EU, as their environmental damage outweighs potential energy gains from electricity generation.

The event is hosted by the European Commission in collaboration with the European Environmental Bureau (EEB).

Supporters:





The time for rivers is now!





Keep rivers free-flowing, save freshwater life!

Thank you for your attention!