

The establishment of the Trans-European Swimways Network & Swimways of European Importance



Emma Cordier, Policy Officer
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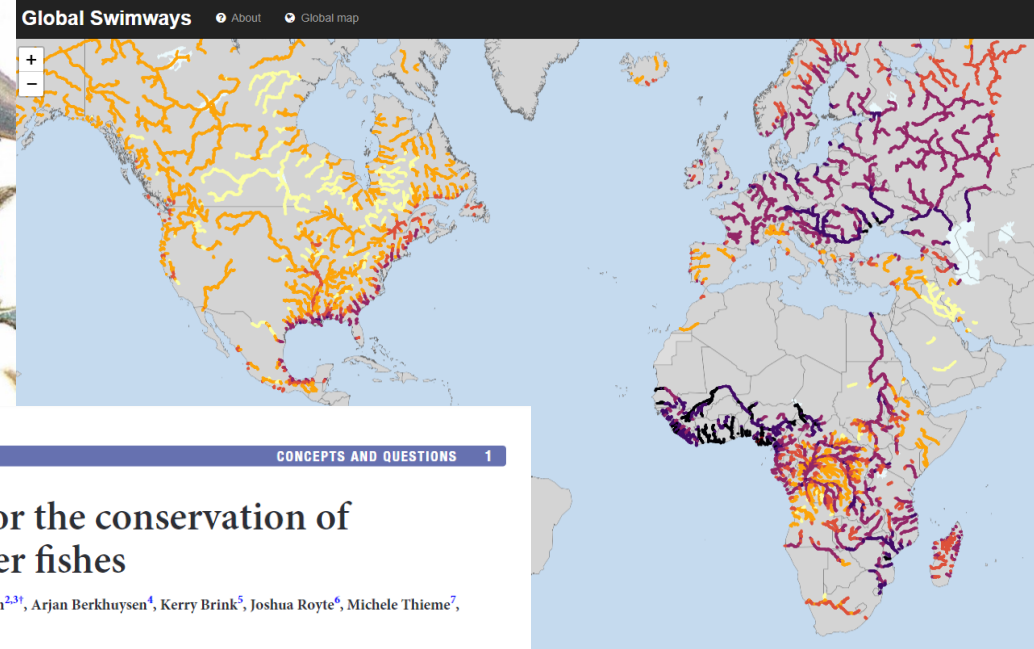
**Trans-European
Swimways Network**

Global Swimways Programme



Fish Migration Around The Globe

Global swimways are the main routes that migratory fish take across the world. Here we explain why this matters & what we want to do.



CONCEPTS AND QUESTIONS 1

Global Swimways for the conservation of migratory freshwater fishes

Thomas A Worthington^{1*}, Arnout van Soesbergen^{2,3*}, Arjan Berkhuysen⁴, Kerry Brink⁵, Joshua Royte⁶, Michele Thieme⁷, Herman Wanningen⁵, and William Darwall⁸

Anthropogenic activities have severely degraded the ecological integrity of global freshwater systems. Migratory freshwater fishes are especially threatened by the cumulative effects of multiple stressors and fragmentation, particularly those that impede access to critical habitats. To stimulate the conservation and protection of these species, we propose a “Global Swimways” program to identify rivers that support the migration routes of biologically and/or socioeconomically important freshwater fishes. We test the utility of the International Union for Conservation of Nature Red List data to support the identification of Global Swimways and present case study regions containing rivers with either high species richness (west-central Africa and Southeast Asia), high numbers of threatened species (Eastern Europe and Central Asia), or multiple endemic species (the Rift Valley lakes in East Africa). We hope the Global Swimways program will provide metrics that can be used to identify rivers requiring increased protection or restoration, track trends, and stimulate the greater inclusion of migratory freshwater fishes in global policy mechanisms.

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Of the 18,201 freshwater fish species described to date (as of July 2021) (van der Laan 2021), the majority undertake some form of between-habitat movement as part of their life history (Brink *et al.* 2018). Of these species, more than 1000 are considered truly migratory and as such their survival is dependent on completing these migrations (Brink *et al.* 2018).

Migratory fishes can play critical roles in ecosystem functioning, for instance as vectors transporting nutrients from the ocean into freshwater and terrestrial realms (Holmlund and Hammer 1999) and vice versa. Migratory fishes also deliver key ecosystem services, including the provision of dietary protein (Dugan *et al.* 2010) and income from both commercial (Hoeninghaus *et al.* 2009) and recreational (Butler *et al.* 2009)

Collaborators

Wetlands International – European Association



World Fish Migration Foundation



IUCN Biodiversity Assessment & Knowledge Team



UNEP World Conservation Monitoring Centre



Trans-European Swimways Network

European implementation of the Global Swimways Initiative

Trans-European Swimways Network

Trans-European Swimways Programme



Trans-European Swimways Network



Framework for Action

- Develop regional criteria to identify Swimways of European Importance
- Barrier prioritization
- Inform policy debates
- Host workshops and Network meetings

Barriers

Fisheries

Invasive
alien species

Climate
change



Trans-European Swimways Network



Swimways of European Importance

Objective of SEI criteria development :

→ Identify **Swimways of European Importance (SEI)**, the most important Swimways of Europe to protect migratory freshwater fishes.

Preliminary criteria

1. Biological: migratory freshwater fish distributions, abundance, threat status, endemism, and ecological factors.

2. Economic: financial value of Swimways (employment, fishing industries, recreational fishing...)

3. Social: impact on communities, cultural significance, livelihood support, and well-being.



Preliminary data

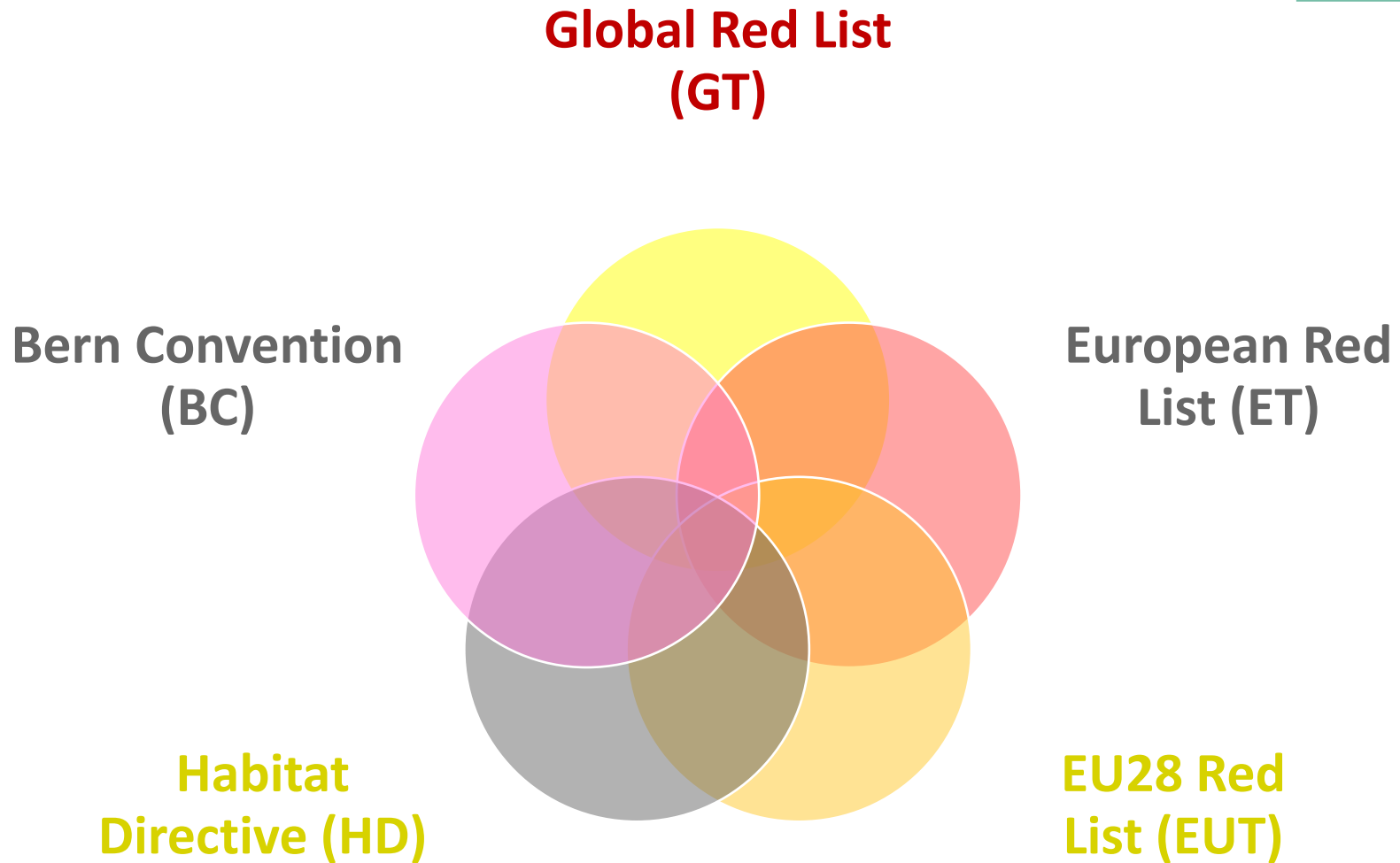
- HydroRivers with a $Q > 5 \text{ m}^3/\text{s}$
- IUCN Red Lists of **Threatened Species**: Global, European & EU level
- Species listed on the **Habitats Directive (HD)**
- Species listed on the **Bern Convention (BC)**
- Final list of **92 migratory fish** species

Preliminary data

- **Global**
 - GT: Globally threatened migratory freshwater fishes included in the IUCN Red List.
- **European**
 - ET: European threatened migratory freshwater fishes included in the IUCN Red List.
 - BC: Migratory freshwater fishes listed in the appendices of the Bern Convention.
- **EU**
 - EUT: European Union 28 threatened migratory freshwater fishes included in the IUCN Red List.
 - HD: Migratory freshwater fishes listed in the Annexes of the EU Habitats Directive.

Criteria development

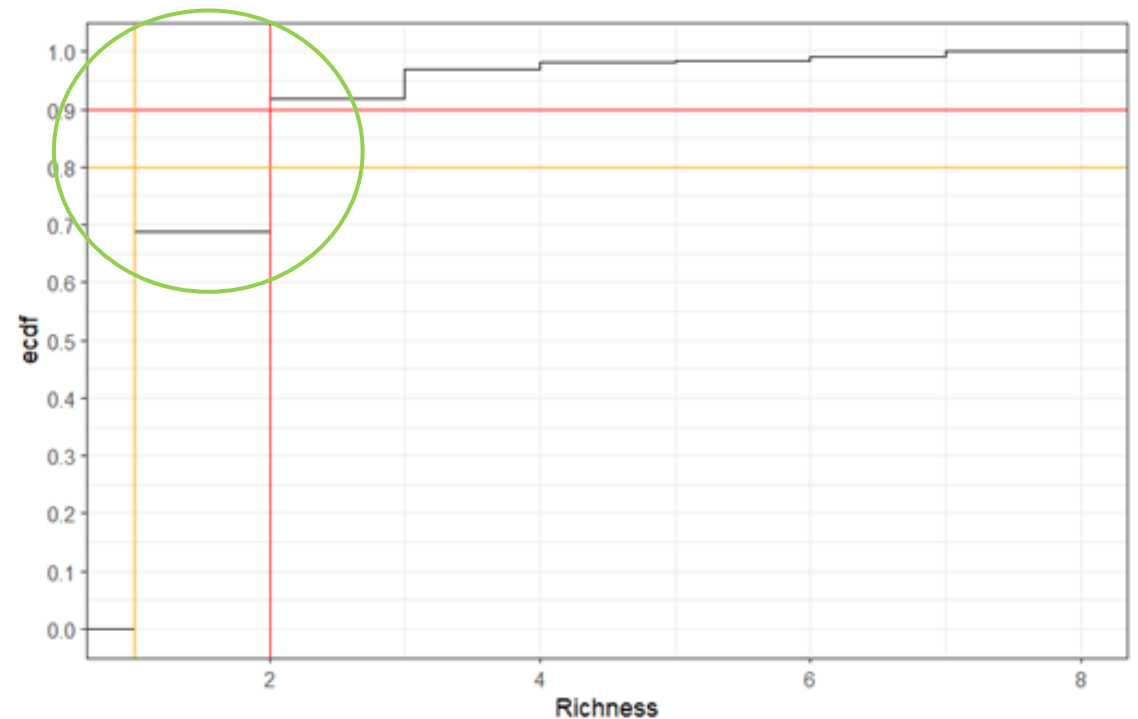
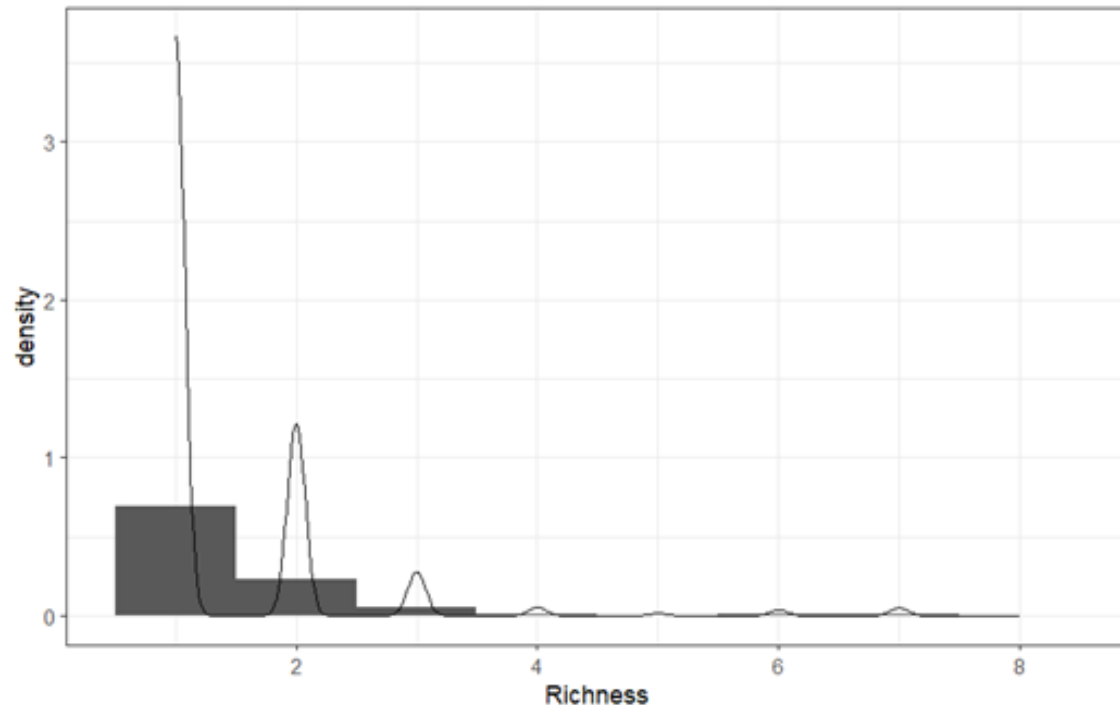
Global
Regional (Europe)
Subregional (EU)



Thresholds for the 'significant proportions'

2 potential thresholds to **identify river sections supporting the highest species richness** within the 5 different categories.

- More restrictive **top 10%** threshold (excluding the 90% of river sections)
- More relaxed **top 20%** (excluding the 80% of river sections)

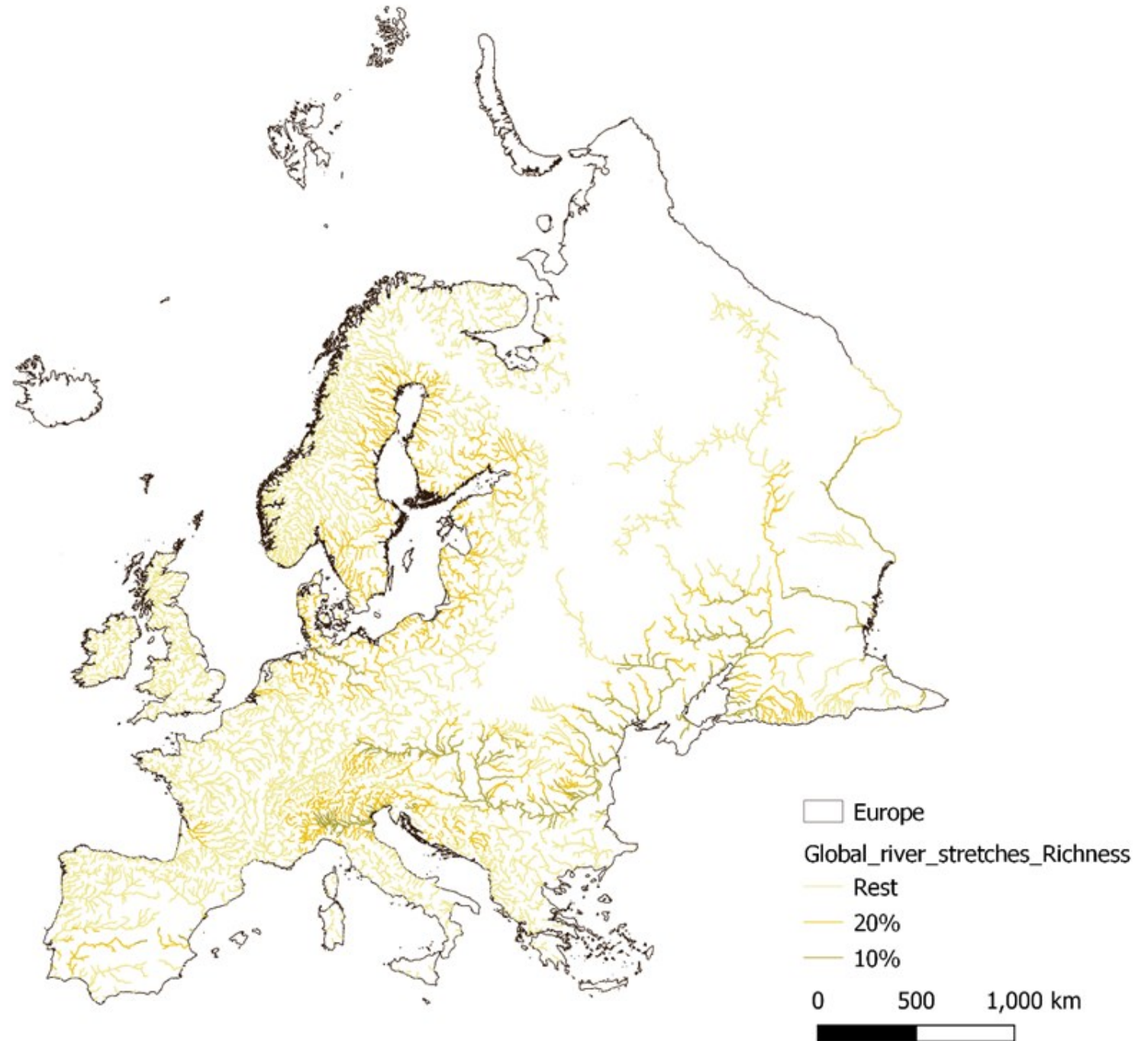


Global Red List

Thresholds

90% → 10% of the river stretches have richness > 2 species

80% → 20% of river stretches have richness > 1 species

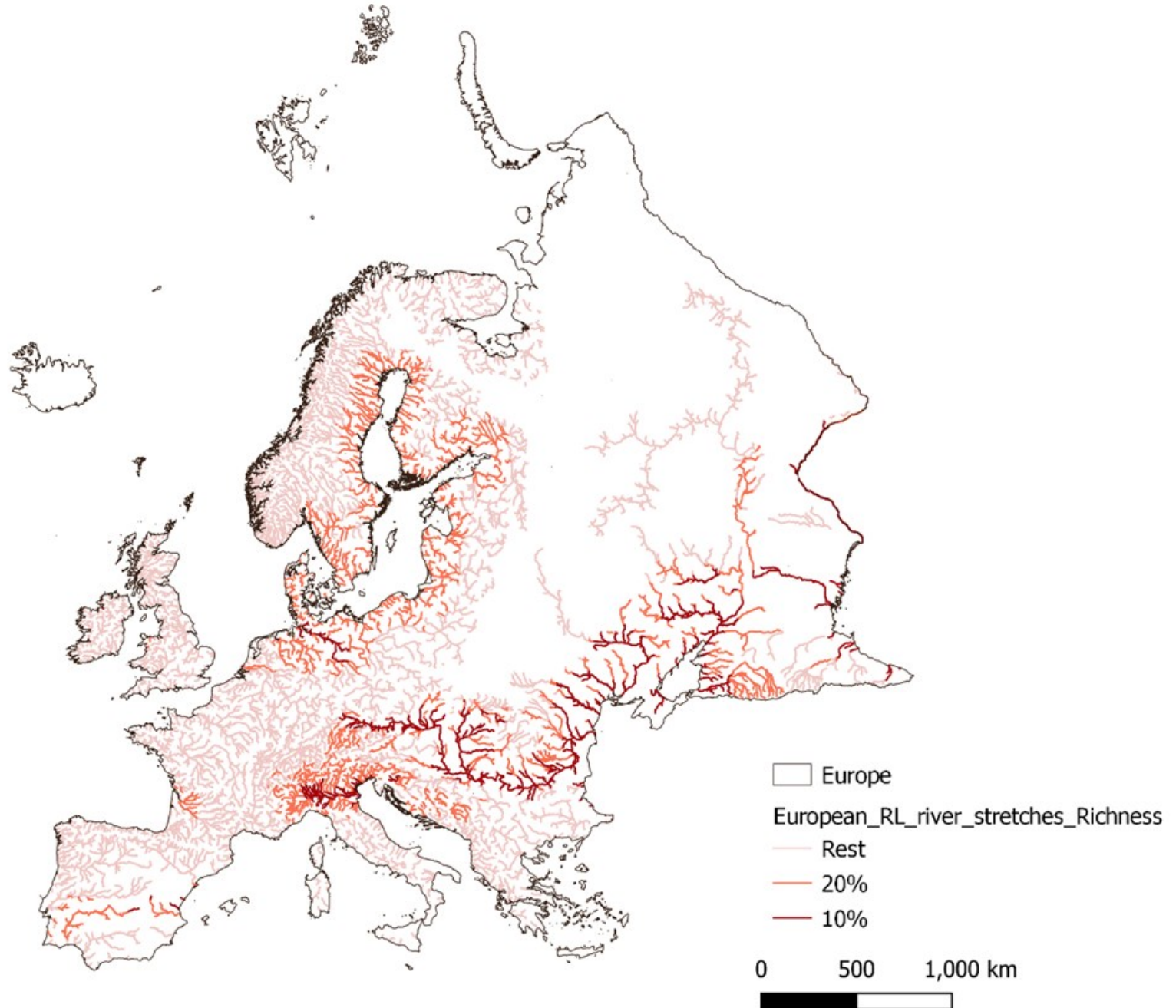


European Red List

Thresholds

90% → 10% of the river stretches have richness > 2 species

80% → 20% of river stretches have richness > 1 species

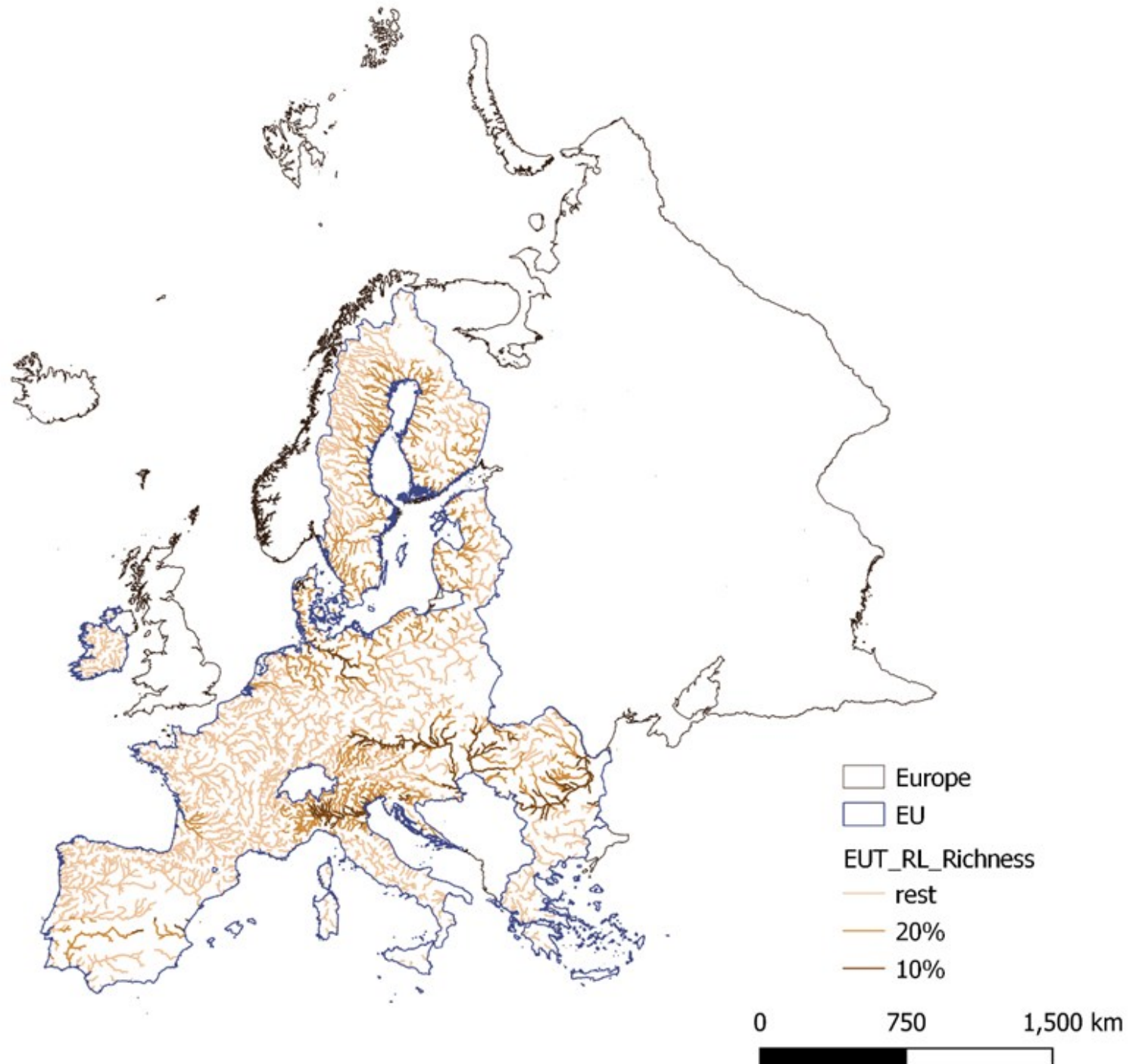


EU28 Red List

Thresholds

90% → 10% of the river stretches have richness > 2 species

80% → 20% of river stretches have richness > 1 species

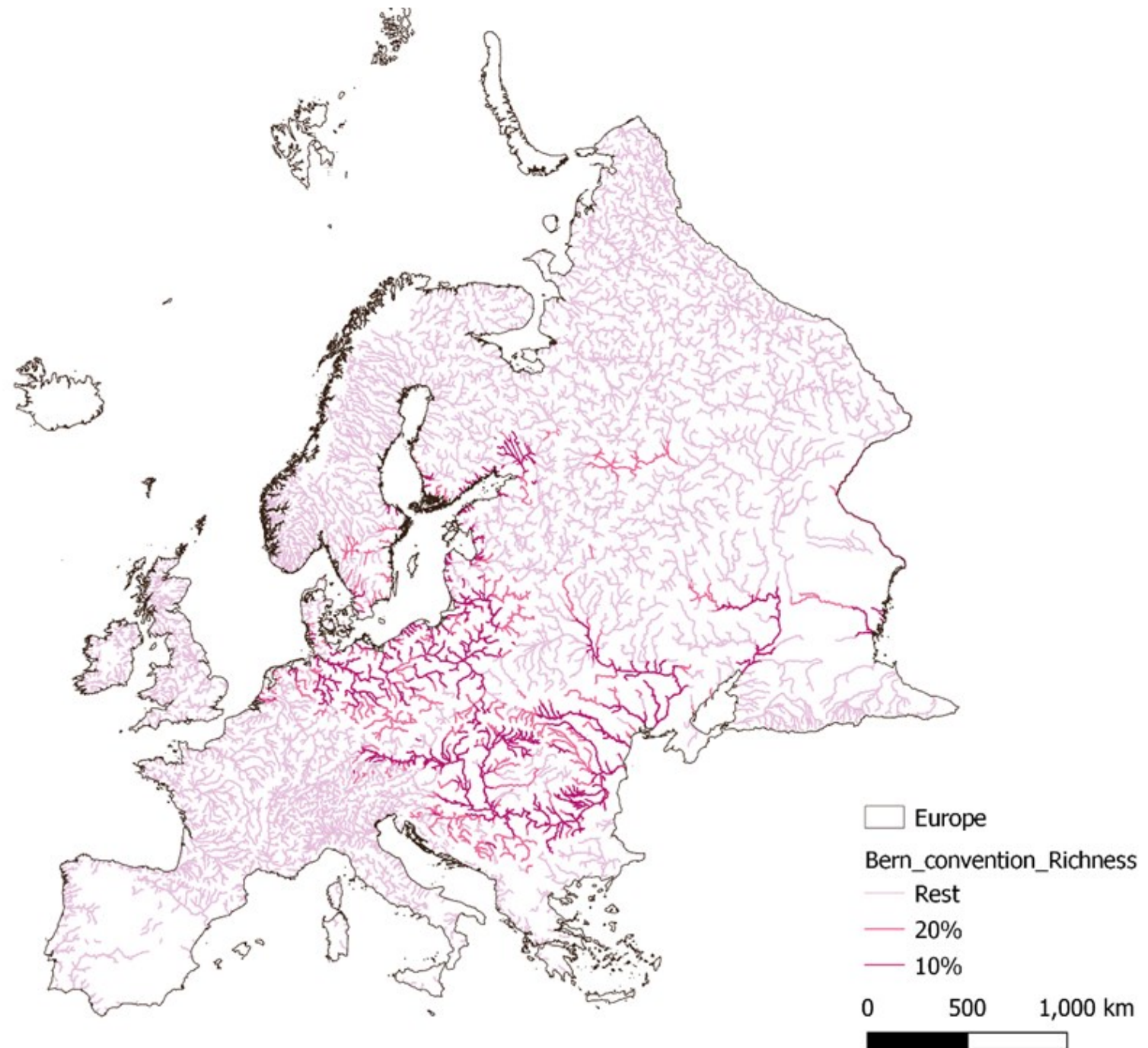


Bern Convention

Thresholds

90% → 10% of the river stretches have richness > 8 species

80% → 20% of river stretches have richness > 7 species

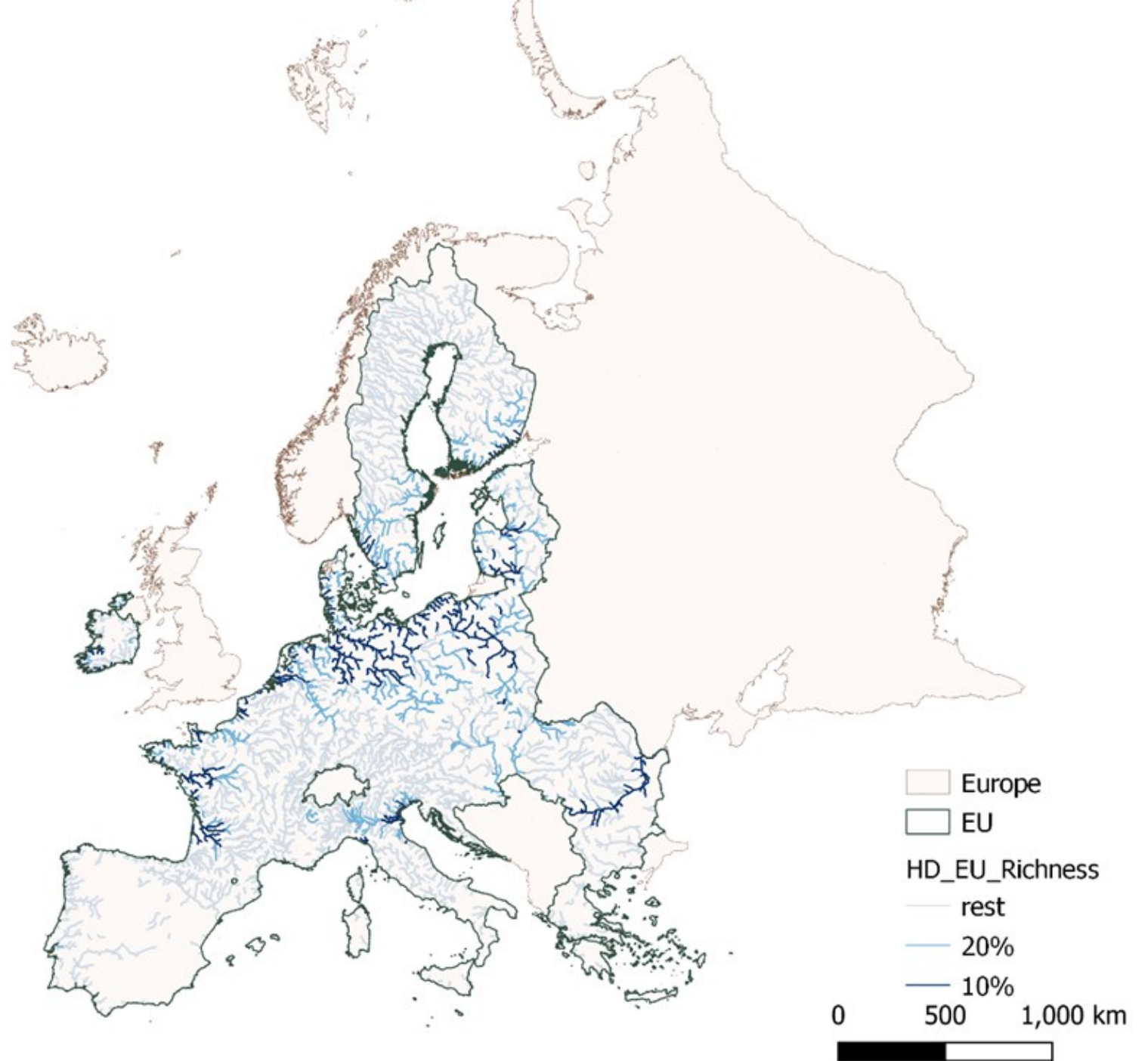


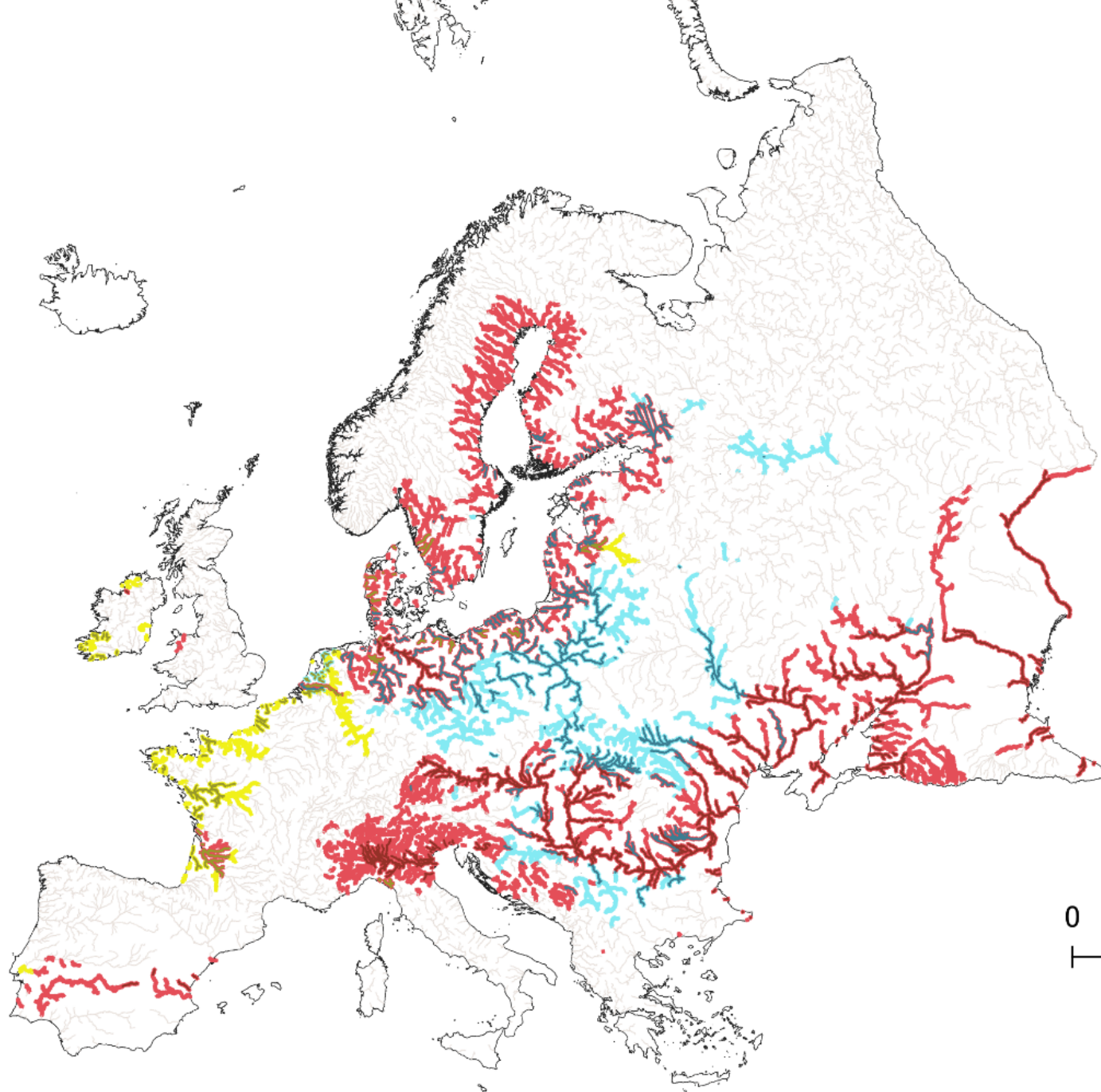
Habitats Directive

Thresholds

90% → 10% of the river stretches have richness > 5 species

80% → 20% of river stretches have richness > 4 species





- **Global:** 72% of rivers
- **Regional:** 21% of rivers
- **Subregional:** 7% of rivers

10_classification

— Global

— Regional

— Subregional

20_classification

— Global

— Regional

— Subregional

0 750 1,500 km

Technical report



- **403 SEIs** identified
- Details on individual SEIs in the report:
 - Location
 - River mouth sea,
 - Total length
 - Qualifying fish species

SEI next steps

- **SEI Phase 2:** Addressing limitations, identifying threats, fragmentation, and exploring conservation opportunities for each swimway.
- **Collaborative compilation:** Working with local experts to create an online database for global use by governments, NGOs, and international institutions.
- **Criteria development:** Partnering with experts to identify SEI based on economic and cultural significance.

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2024 activities

- Submission to European Commission concerning swimways & free-flowing river targets
- Report on opportunities for better conservation of swimways through EU policy instruments
- Project proposals submitted to potential donors
- Living Planet Index report for migratory freshwater fishes
- World Fish Migration Day
- Events and workshops with TEN-S

TEN – S

TEN-S is at the core of the Programme

- Collaborative work
- Knowledge sharing
- Stronger voice when advocating for better policies and implementation
- Enabling dialogue between an array of stakeholders

Join us !



Trans-European Swimways Network



Thank you for your attention !

Contacts

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Wetlands
INTERNATIONAL



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