



# Biodiversity Strategy 2030

## Barrier Removal for River Restoration

*Scaling up dam removal as a river restoration tool in Europe  
Seminar by Dam Removal Europe*

**19 May 2022**

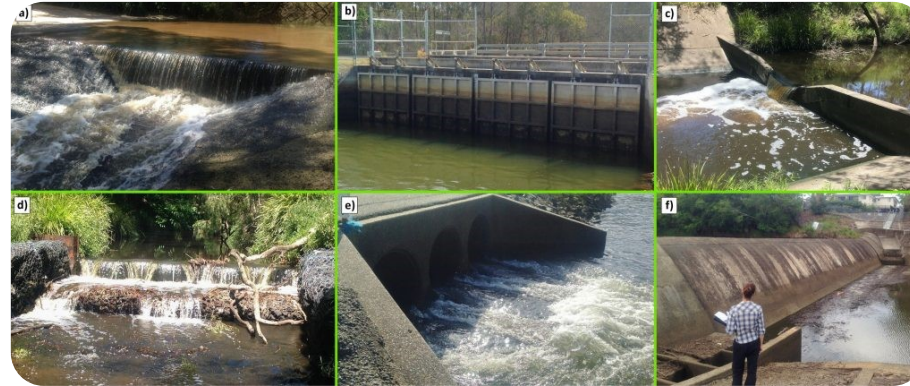
European Commission – Directorate General for the Environment  
Zero Pollution – Sustainable Freshwater Management

# Freshwater ecosystems under pressure



*“Inland waters and freshwater ecosystems show among the highest rates of decline”*

*“Freshwater species populations suffered an 81% decline”*

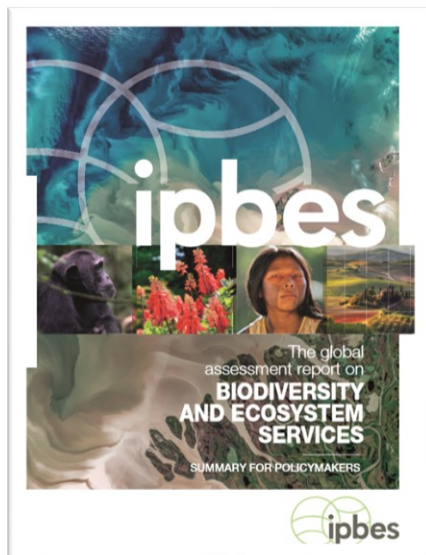


## Freshwater ecosystem services

- Resilience to climate change
- Water supply
- Flood protection
- Recreational activities
- Protection of coastal zones
- Nature protection
- ...

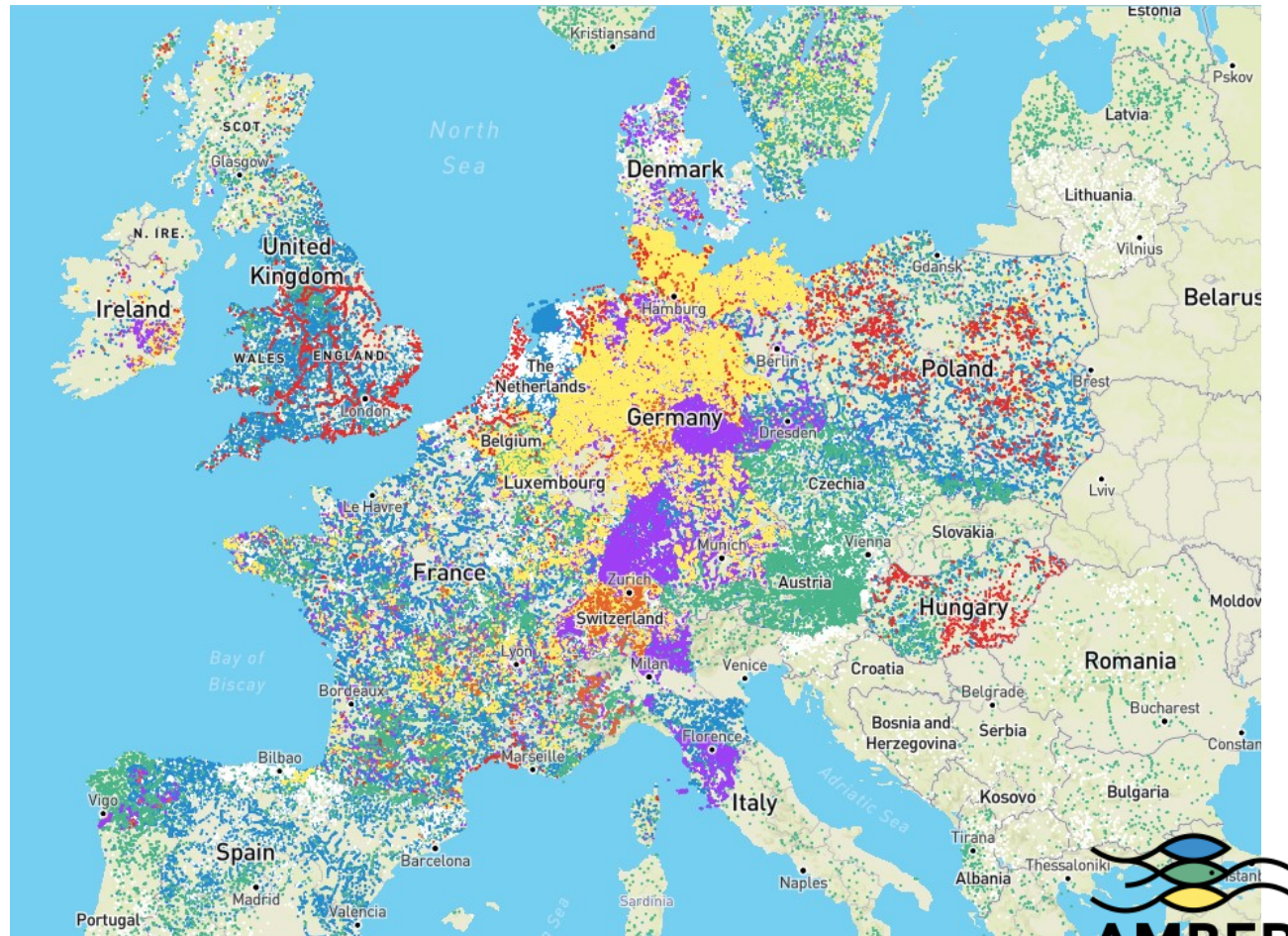
Cause: multiple pressure including river fragmentation causing:

- Modification of flow
- Disrupted migration and sediment transport
- Loss of habitats





# Fragmentation of European rivers



## 1 million barriers!

- Almost one barrier every 2 km
- > 85% - small barriers
- Many obsolete

# Main EU policies on freshwater biodiversity

**Habitats Directive  
(1992)**



**Eel regulation  
(2007)**  
**Pan-European  
action plan for  
sturgeon (2018)**



**Water Framework Directive  
(2000)**



**Biodiversity strategy for 2030  
(2020)**



# Biodiversity Strategy 2030 - key freshwater targets



- 30% of EU land and sea protected, 1/3 of which under 'strict protection'
- EU nature restoration law (forthcoming)
- Specific targets for freshwater ecosystems:
  - Water Framework Directive – increased implementation efforts - by 2027
  - Restoration and preservation of ecological flows - by 2027
  - 25,000 km free-flowing rivers - by 2030
- Commission to provide guidance



# Barrier removal for river restoration



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# Guidance on the removal of barriers



- Help Member States identify and prioritise barriers for removal:
  - achieve the 25,000Km of free flowing rivers target
  - boost the restoration of freshwater ecosystems
- Main aspects developed in the guidance document:
  - BDS 2030 target and existing legislation: 1) water legislation and 2) nature legislation
  - Definition of free-flowing rivers
  - Guidance on site selection and prioritisation
  - Overview of possible financing instruments

# Interplay with existing legislation



- BDS 2030 calls for:
  - greater efforts to restore freshwater ecosystems and the natural functions of rivers
  - reach Water Framework Directive (WFD) good status:
    - including by **removing or adjusting barriers** = WFD legal obligations (2027) for all EU waters
  - restoring at least 25,000 km of rivers to free-flowing state by:
    - **removing barriers** AND
    - **restoring floodplains and wetlands** = integrated effort towards WFD and Habitats and Birds directives (HBD) goals
- BDS 2030 goes beyond WFD in specific locations
- Integrated efforts towards WFD and HBD goals



# What's a free flowing river?



- 25 000 km of free-flowing rivers - intuitively easy BUT
  - no established consensus as to what criteria would define a free-flowing river that could count towards the EU target
  - no ready-to-use indicator to measure free-flowing rivers currently available
- Definition proposed:
  - *a free-flowing river is one that supports connectivity of water, sediment, nutrients, matter and organisms within the river system and with surrounding landscapes, in all dimensions, and is not impaired by anthropogenic barriers and is not disconnected from its floodplain when a floodplain is present*
  - *natural impediments (e.g. woody debris, waterfalls, beaver dams) are not to be considered barriers in the context of BDS*

# In practice



- Main principles:
  - Free flowing rivers = absence of artificial barriers
  - Focus on both transversal barriers and lateral barriers
  - Restoration of floodplains to complement barrier removal
  - Focus on stretches of rivers (within a continuous river network)
- Aim:
  - Establishing stretches of free flowing rivers within a continuous (WFD obligation) river network

# In practice



- Proposed actions
  - undertake or maintain efforts to remove artificial barriers, where such opportunities exist
  - develop criteria to define (stretch of) river as free-flowing (counting towards 2030 goal)
  - joint work Commission – Member States (ECOSTAT core group established)



# Site selection and prioritisation

- Existing methodologies to prioritise sites for barriers removal
  - Tend to focus on longitudinal continuity and removal of transversal barriers
  - Modification/adaptation might be necessary
- General principles:
  - seek synergies with existing legislation or strategies
  - consider existing uses, maximising co-benefits where possible
  - Improve data collection – in parallel – to fill gaps in knowledge

# Improving longitudinal and lateral connectivity

Elements that can inform prioritisation scenarios

## Longitudinal connectivity

- ✓ Degree of fragmentation
- ✓ Biodiversity and river quality
- ✓ Hydromorphological quality
- ✓ Governance and support
- ✓ Futureproofing

## Lateral connectivity

- ✓ All the elements considered for longitudinal connectivity
- ✓ Dimension (e.g. floodplain area) and space required (e.g. land acquisition)
- ✓ Site and slope stability (e.g. to evaluate flood prevention potential)
- ✓ Synergies with other measures (e.g. re-meandering, creation of wetlands and ponds)

# Financing



- Overview of the main EU funding instruments that can support river restoration projects
  - LIFE, Horizon Europe, ...<sup>13</sup>
  - water-related objectives could be integrated into relevant sectoral planning instruments (e.g. European Maritime Fisheries and Aquaculture Fund national programmes, CAP plans)



# Thank you



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