LIFE Living Rivers: Restoring rivers in Slovakia

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Project

Implementation of the river basin management plan in selected river-sub-basins in Slovakia

Call	**LIFE Strategic Nature and Integrated Projects (SNaP/SIP)**
Acronym	**LIFE21-IPE-SK-LIFE Living Rivers**
Project code	**101 069 837**
Duration	**1.1.2023 - 31. 12. 2032**
Budget	**27 799 402,33 €**
EU contribution	**16 677 073,39 €**

Partneri projektu

Výskumný ústav vodného hospodárstva

Tatranský národný park TANAP

Štátna ochrana prírody Slovenskej republiky

Ministerstvo životného prostredia Slovenskej republiky

Fakulta rybářství a ochrany vod Faculty of Fisheries and Protection of Waters

Jihočeská univerzita v Českých Budějovicích University of South Bohemia in České Budějovice

Slovenský vodohospodársky podnik, štátny podnik

Vodohospodárska výstavba

Bratislavské regionálne ochranárske združenie BROZ

WWF

CATCH ME

Main project goal

- Implementation of the 3rd RBMP of the Danube (2021-2027) - ecological targets of the WFD to achieve good GES/GEP of surface water bodies

- Active measures (in the field) on:

10

Water bodies

344

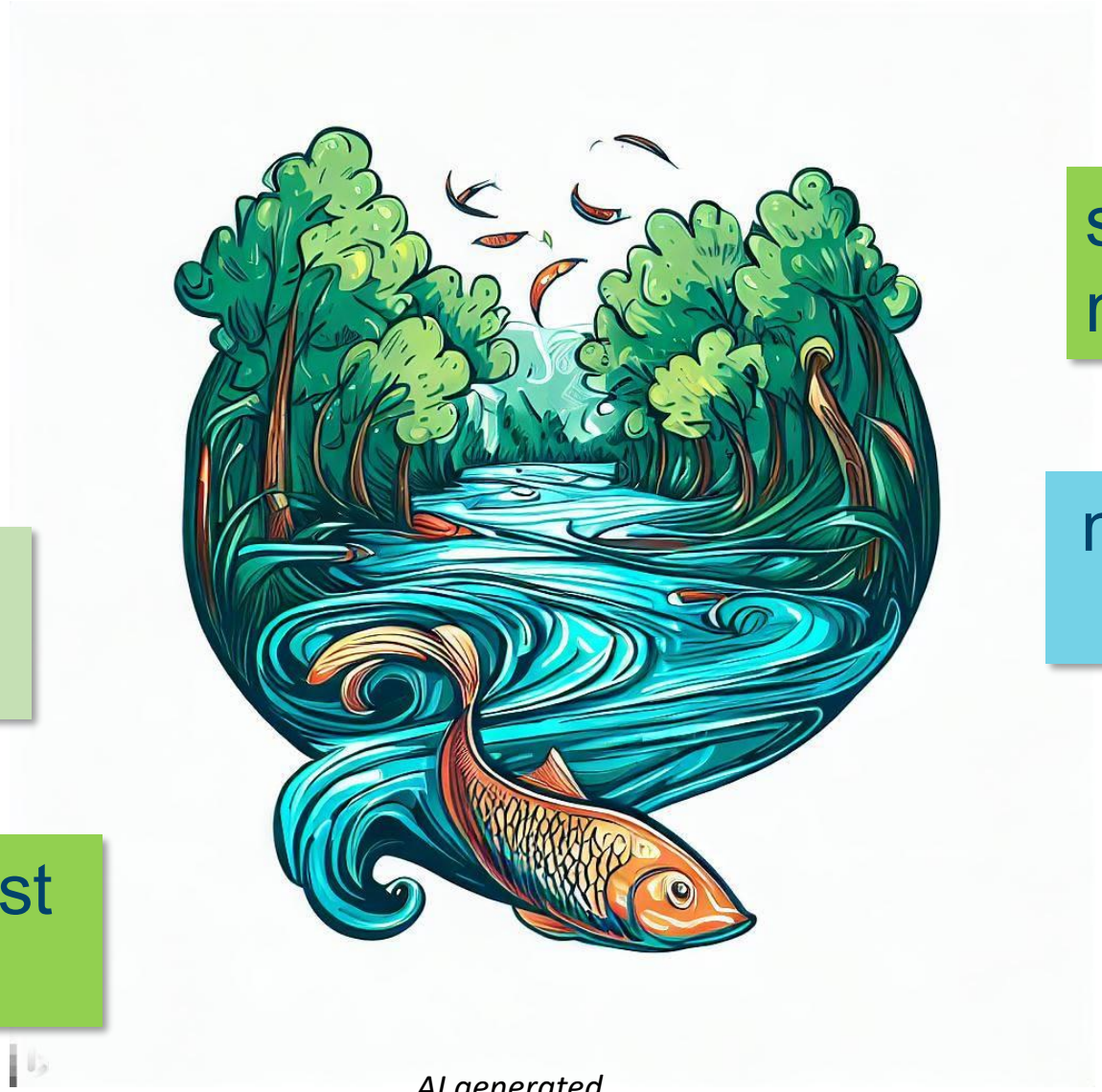
km

Key topics

HYMO measures

management of protected areas

sustainable forest management



AI generated

sustainable land managament

native fish species, sturgeons

water quality measures on local scale

How?

Planning

Monitoring

Implementation

Stakeholders

Living Rivers

Cooperation

Capacity building

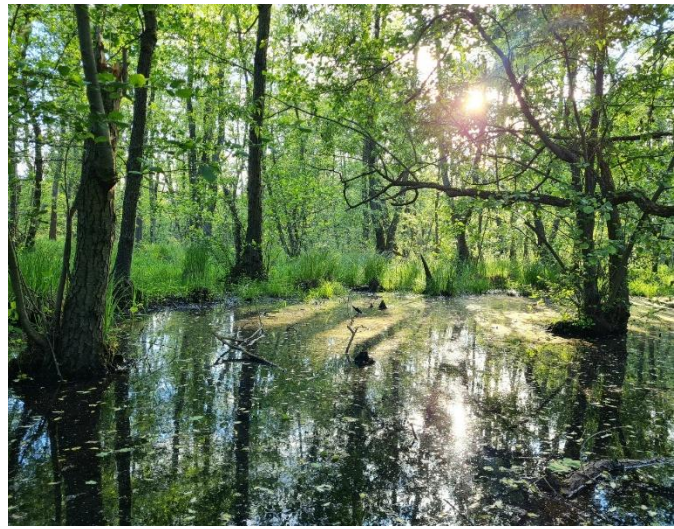
Communication

Mobilisation

Replication

Indicators (KPI)

3 268 ha	habitats
13,6 km	side arms
15 bariér	Barriers removed/modified
69 km	Free flowing sections for fish
60.000	Trees planted
100 ha	Forest habitats
38 ha	wetlands
1124 ton /ročne	CO_2 sequestration



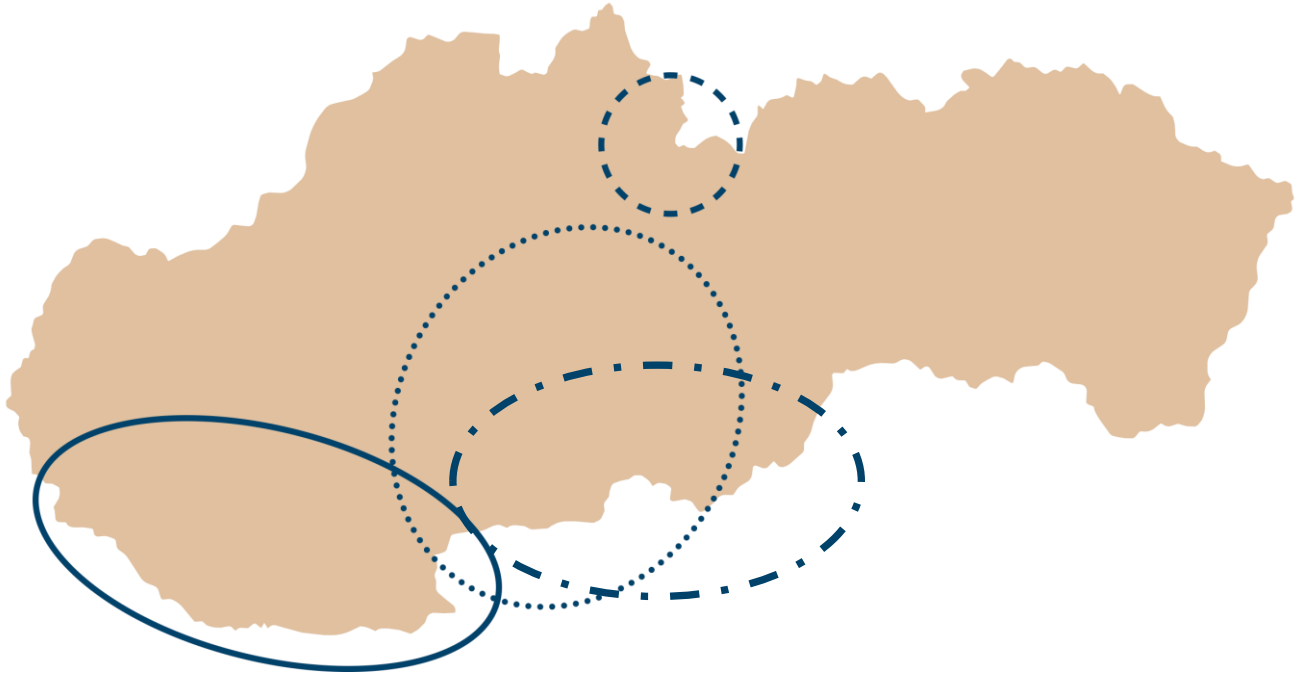
Project sub-basins

Danube

Hron

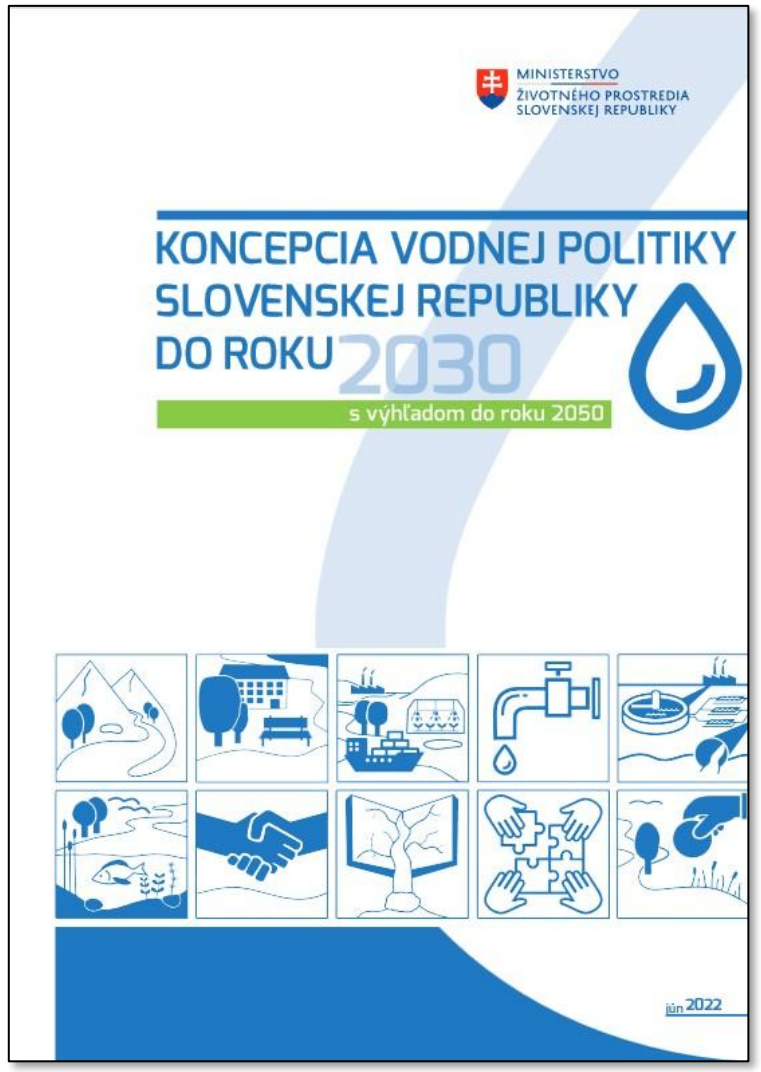
Ipeľ

Belá



19 Natura 2000 sites

National policy



Water Policy Conception (2021-2030 with prospects till 2050) – adopted by the government 1.6.2022

The 3rd River Basin Management Plan (2021-2027) adopted by the government 11.5.2022

Legislation: simplified construction approval process

River Restorations have become a topic on national level

Water Act 364/2004 Z.z. upd. 2023

§2 par. 1a
River restoration is a **complex o nature based solutions** aiming to reduce or remove negative impact of river regulations
§ 46 River restoration
The goal is to **improve ecological status** of water bodies through supporting **natural river processes** which lead to restoration and preservation of biodiversity of river ecosystem or adaptation to climate change

Methodologies

- Morphological processes as a basis, role of sediments
- Types of restoration
- How to design river restoration
- Bio-engineering solutions, dead-wood
- Restorations in cities
- Practical examples
- Etc.

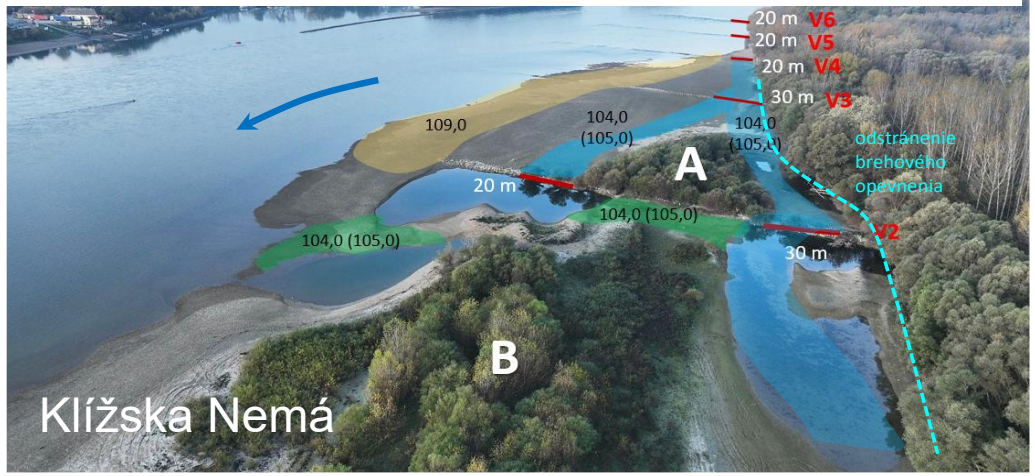
Barriers:

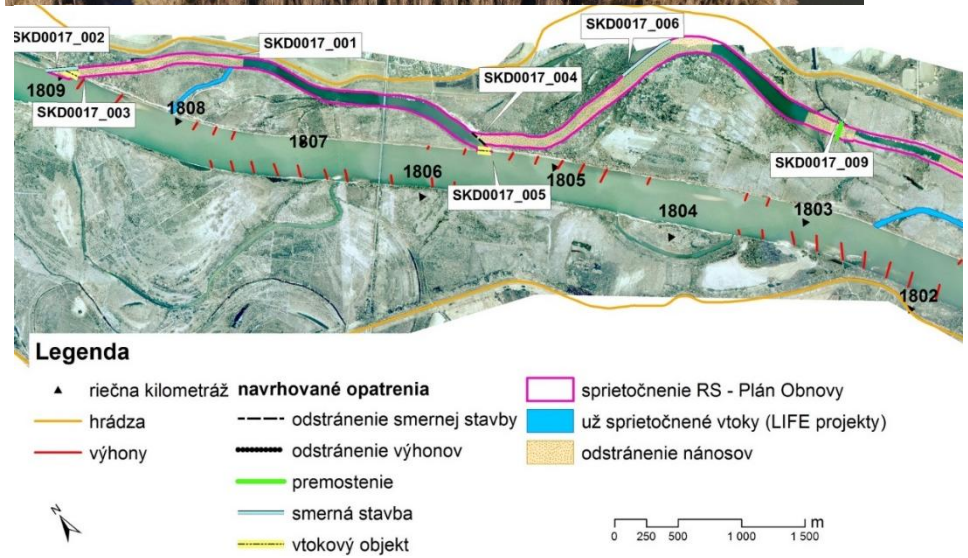
- The first solution to consider:
  Complete removal of barrier
- Procedures, technical parameters for designers
- Hydraulic parameters for each fish zone defined in Slovakia

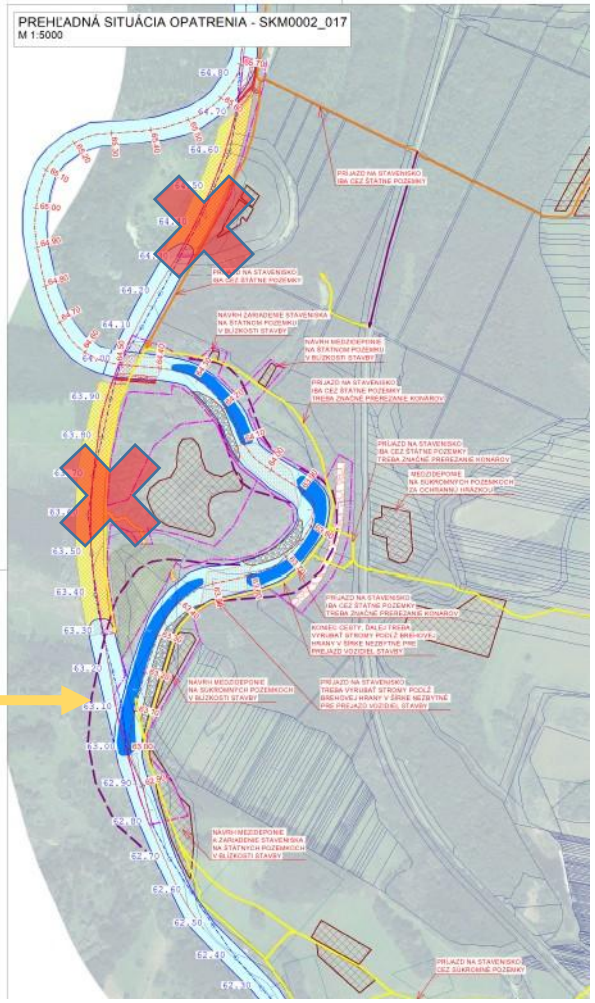
Since 2023

Main types of measures in SK

Side-arms reconnection, Groin reconstruction, Removal of bank protection, Barrier removals (complementary projects)

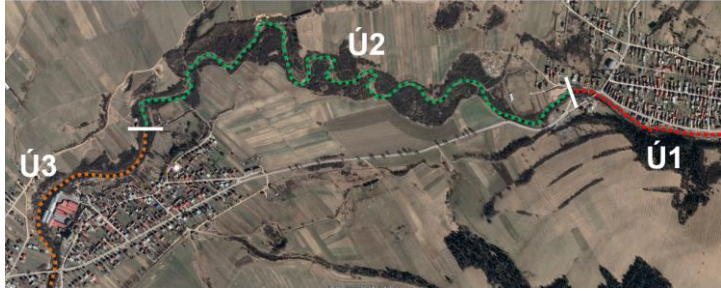




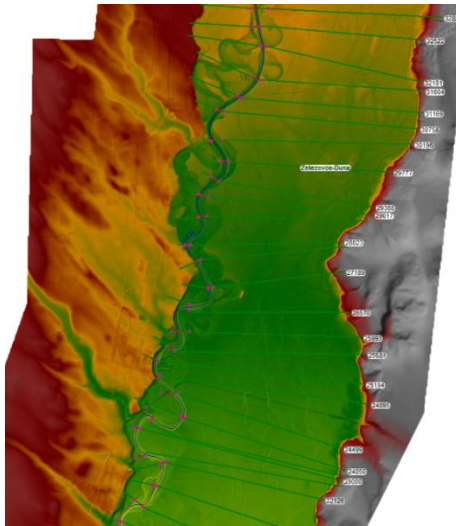


Source: Šindlar, s.r.o.

Catchment to reach approach in pilot basins – scoping studies



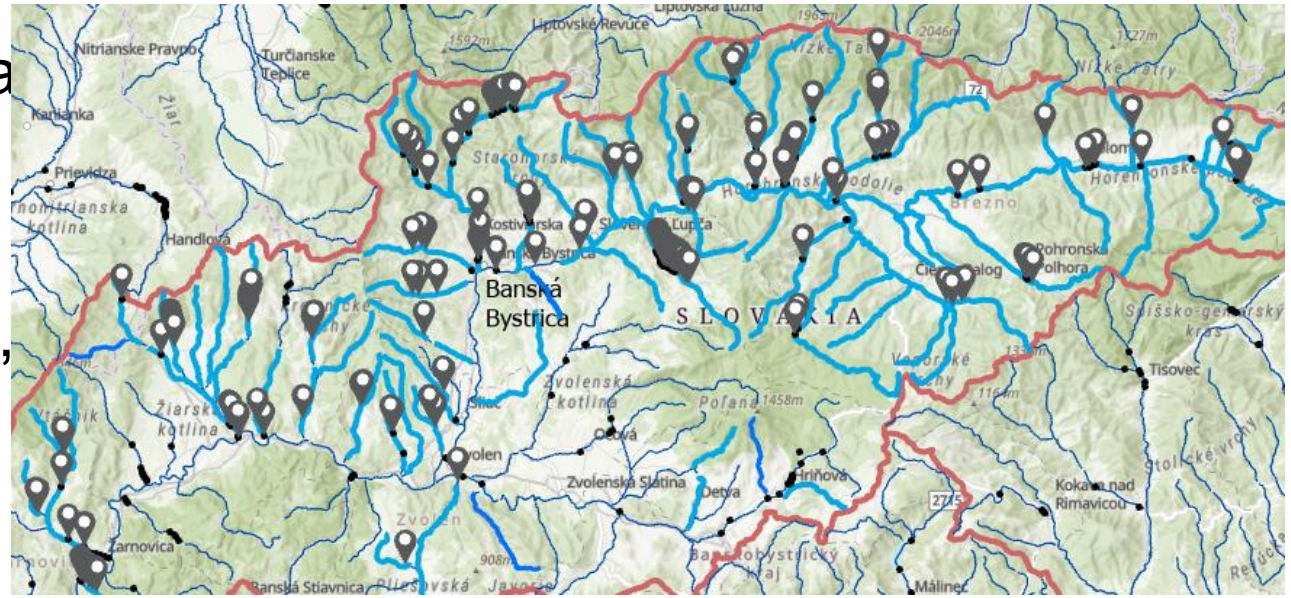
Restoration priority rivers from 3rd RBMP
Hymo assessment (homogenous reaches)
Field investigation, DTMs, historical maps: ca **40 side-arms, 15 riparian vegetation reaches, 1 HMWB reach for mitigation measures**
Monitoring – screening (MZB and fish) : **13 priorities**
Detailed measure proposals, **numerical modelling**



Mapping Barriers

- Ca 1500 barriers in Slovakia in nationa database – not complete!
- 84 water bodies and 260 barriers surveyd (GPS, photo) – SQL database, types specified

Hron and Belá basins



First results: Only ca 35% barriers recorded


Kopernický p.


Bukovec


Belá

Obsolete Barriers

Only 2 complete barrier removals in Slovakia so far: Starohorsky potok and Hučava

Removal of obsolete barriers – easiest and cheapest solution, but often **feared by the river management**

Often not possible - **modifications**

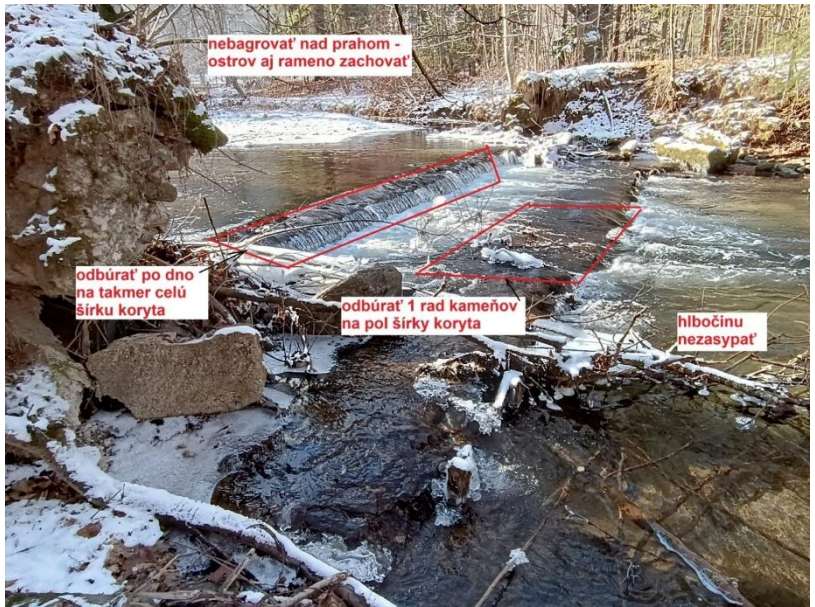
Search for obsolete barriers ongoing

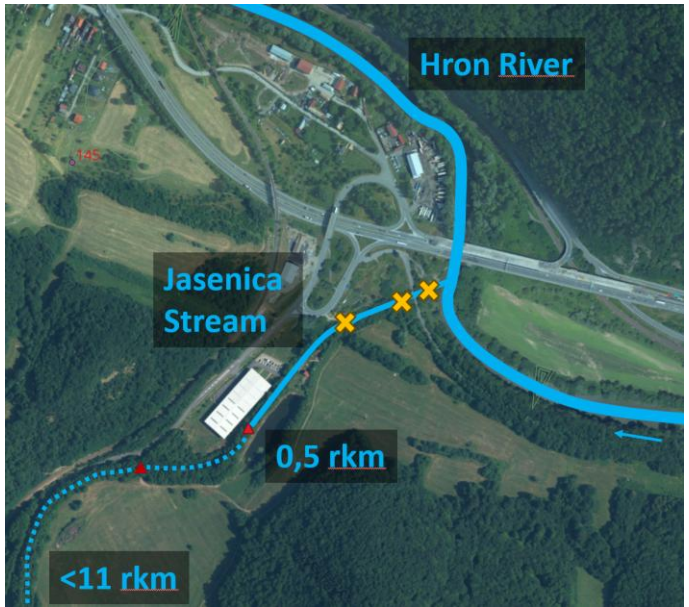
Photos: V. Druga

Living Rivers

Solutions

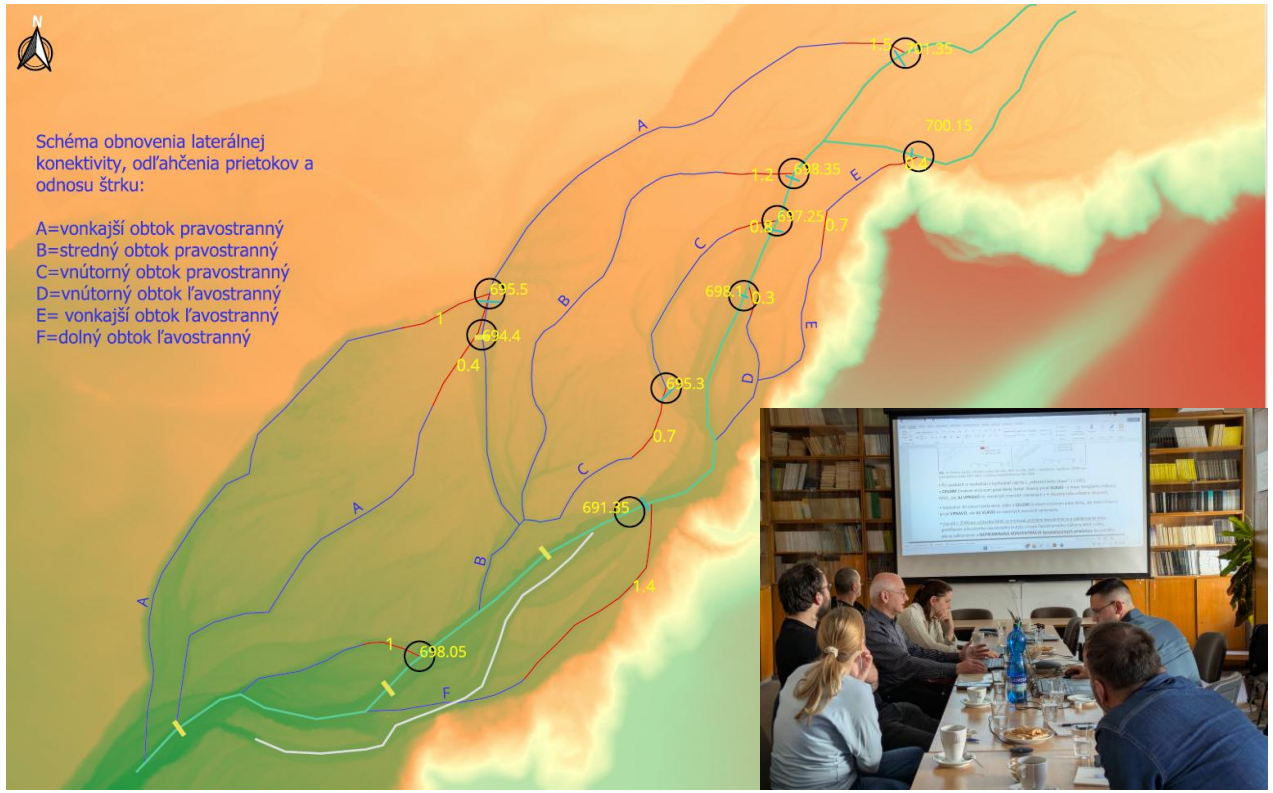
Priorities (confluences, existing documentation, important tributaries, obsolete)
Best practice examples for river managers
Stakeholder involvement
19 barriers for implementation: technical planning and engineering phase **(removals and modifications) 114 km upstream connectivity gain**



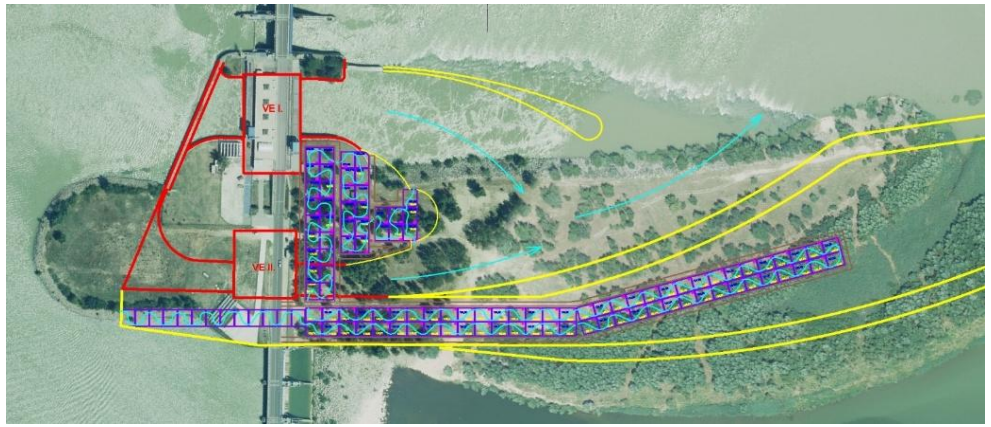


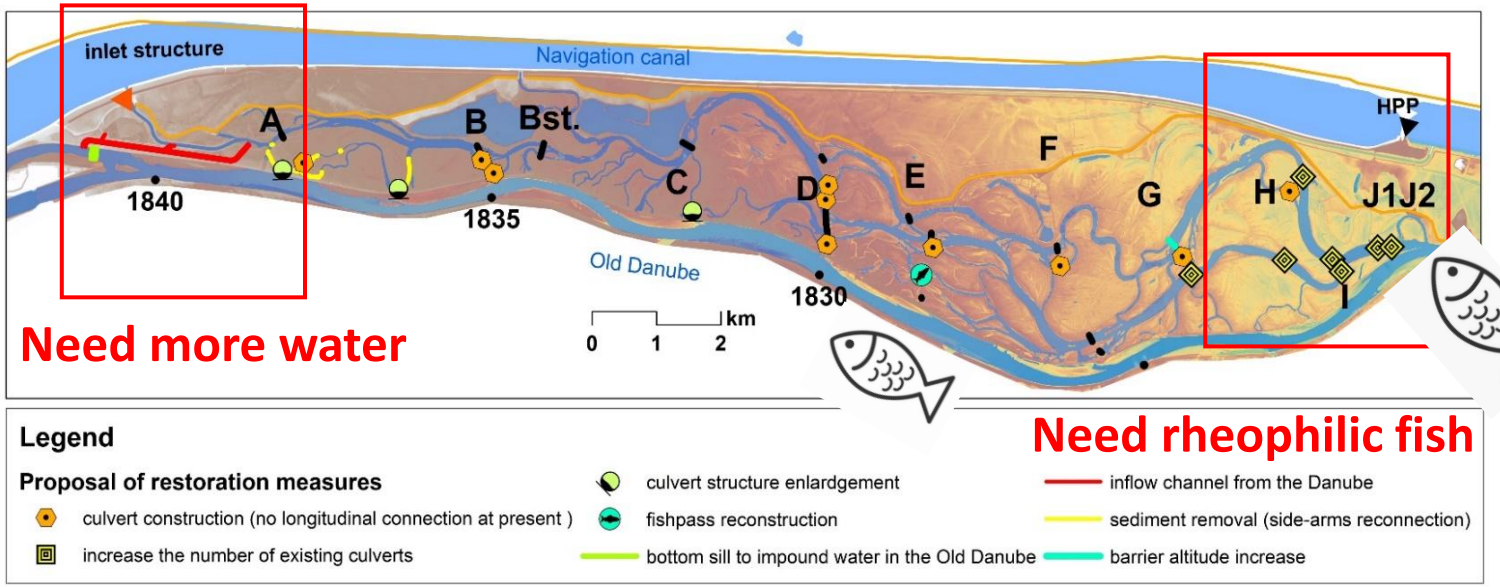
Belá river

- Braided river in National park
- Riverbed erosion due to SHP, river straigtening
- Engaging science, practice and stakeholders
- Restore lateral connectivity (floodplain and sidearms reconnection)
- Barrier removals, ichtyological monitoring



The Danube – Gabcikovo dam area





Technical solutions – fishpass for sturgeon species Čunovo dam (incl. Huso huso)

Biocorridor through side arm system and old Danube river

Reconstructions of linear barriers and culverts, side-arm reconnections

Telemetry, ichtyological monitoring, sturgeon stocking (ca 30.000 juveniles released 2023-2025)

Communication

OBNOVA MOKRADÍ A LUŽNÝCH LESOV

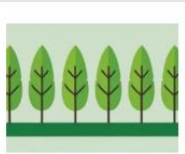
Jedným z najúčinnejších spôsobov, ako vrátiť krajine schopnosť zadržať vodu, je obnova mokradí a lužných lesov.

Čítať TU.

OBNOVA MEANDROV

Významná je aj obnova meandrov a prirodzených tokov riek, ktoré sme v minulosti "narovnali" a premenili na akési technické kanály.

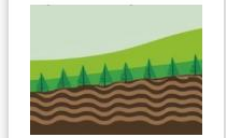
Čítať TU.



ZALESŇOVANIE A VEGETAČNÉ PÁSY

Stromy, kríky, brehové porasty či vetrolamy výrazne prispievajú k zadržiavaniu vody. Dôležitú úlohu má aj ich koreňová sústava.

Čítať TU.

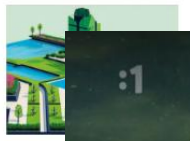


ZMENA HOSPODÁRENIA NA POLIACH

Poľnohospodárstvo orientované na

OBNOVA ZÁPLAVOVÝCH ÚZEMÍ

Ak počas intenzívnych daždov môžu



ZADRŽ VODY PROST

Aj mestá zoh

Life of a LIFE

NATURA 2000

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Thank you for attention

Living Rivers

www.livingrivers.sk