OPEN RIVERS PROGRAMME

Lessons learned & best practices from barrier removal in SE Europe

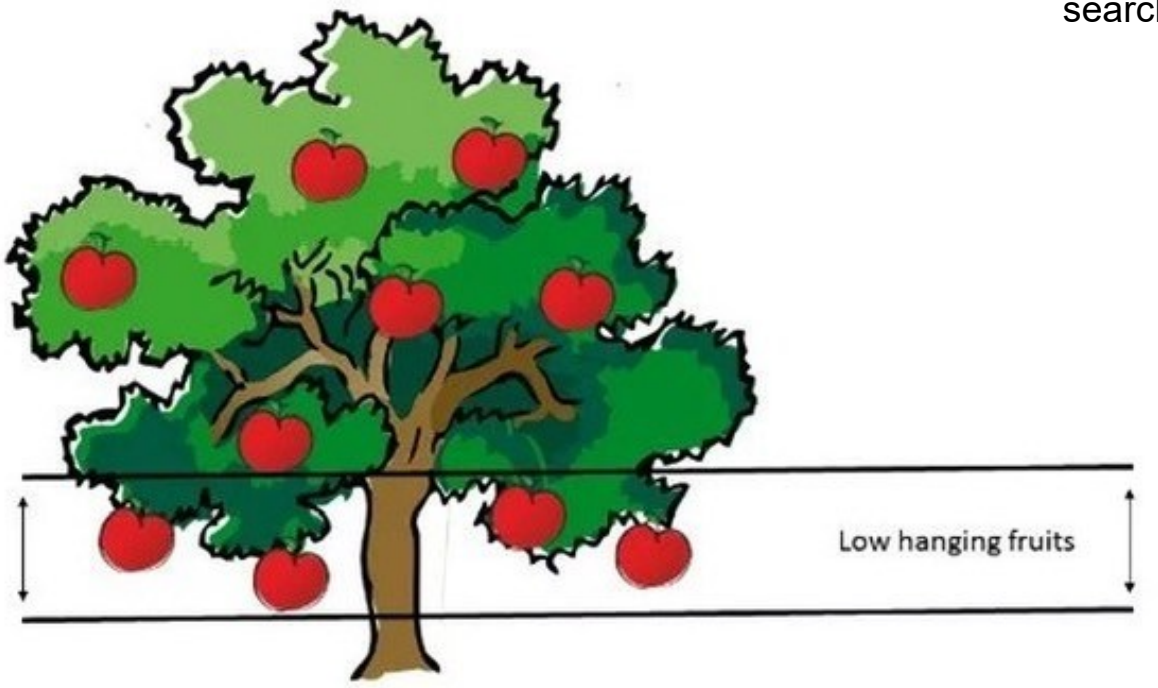
WWF Romania

23 September 2025

DAM REMOVAL, HOW IT STARTED?

ORP in 2021

searching for official data

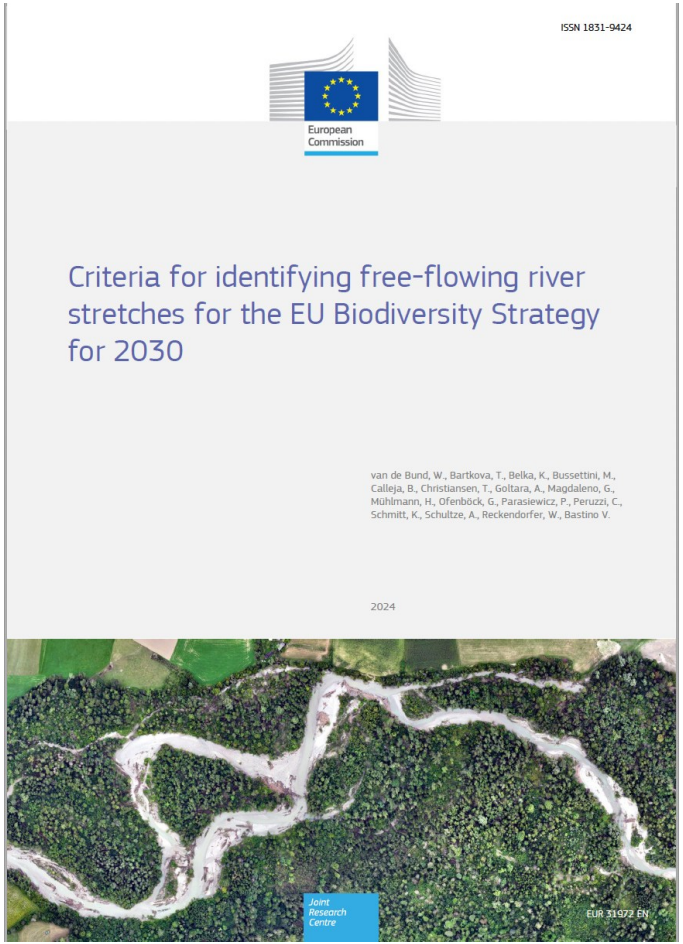


prioritising

METHODOLOGY

Methodology for identifying and prioritizing barriers with potential for removal

Complementary



METHODOLOGY

Methodology for identifying and prioritizing barriers with potential for removal

Objective

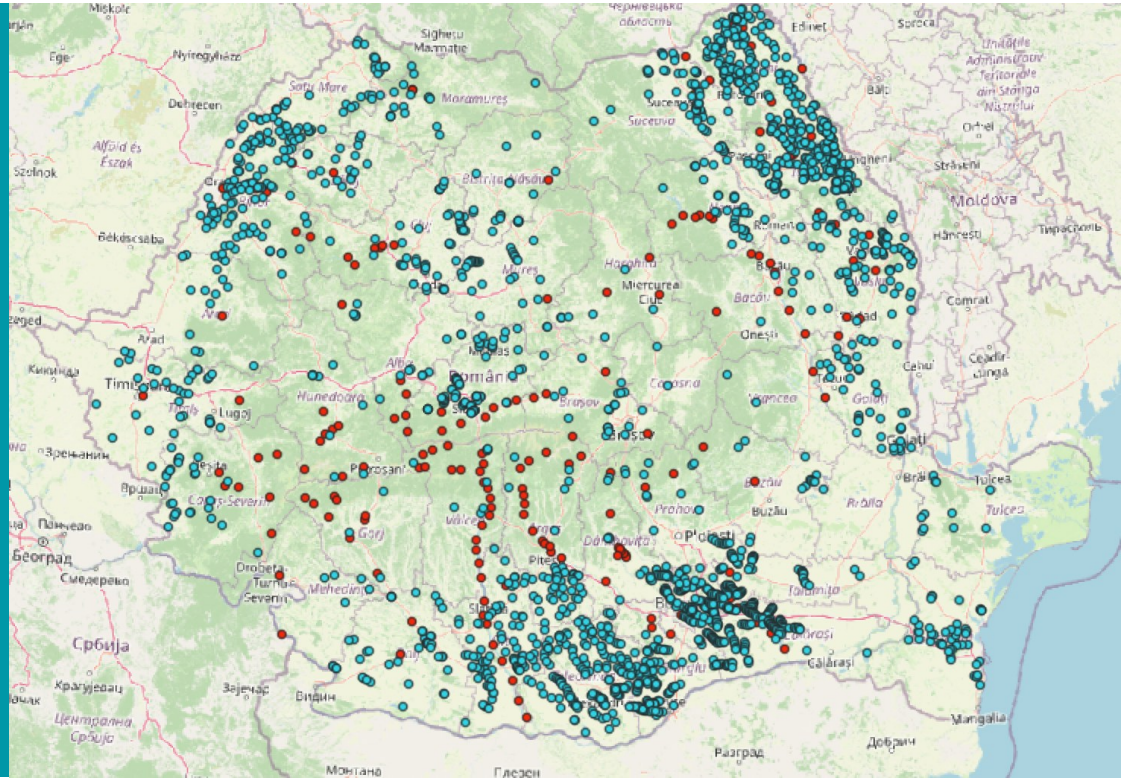
➔ To identify and prioritise barriers to be removed to restore longitudinal connectivity of rivers in Romania also in the context of NRL

Scop

➔ restoration of ecosystem functions
➔ improving the status of habitats and species
➔ improving water quality
➔ improving nutrient and sediment transport
➔ restoring migration corridors for aquatic species

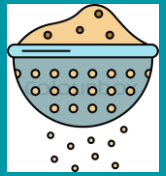
LONGITUDINAL CONNECTIVITY - data collection

- over **2000 C & D barriers** (low and medium importance)
- among **administrators**: ANAR, ROMSILVA, ANIF, ANPA, CNAIR, City Hols, Piscicola SA, Hidroelectrica SA etc.



METHODOLOGY: filter

Filter questions



- ➔ national data
- ➔ adapted to the scope
- ➔ flexible

1	**Is the barrier obsolete or not?**
2	**Does removing the barrier significantly increase flood risk to local communities or socio-economic objectives?**
3	**By removing the barrier will be activated pollution sources stored in the silt?**
4	**Is the barrier in a protected natural area?**
5	**Is the barrier from the C & D category**
6	**Is the barrier on a stretch of river important for fish migration?**

METHODOLOGY: evaluation criteria

Ecology

- Ecological state of the river
- status of fish populations
- status of aquatic habitats
- ecosystem services

Hydromorphology

- degree of clogging
- stream length without other forms of longitudinal fragmentation

Social

- the area that will be affected by flood risk
- the share of the population supporting the project
- the risk of accidents associated with the water

Technical

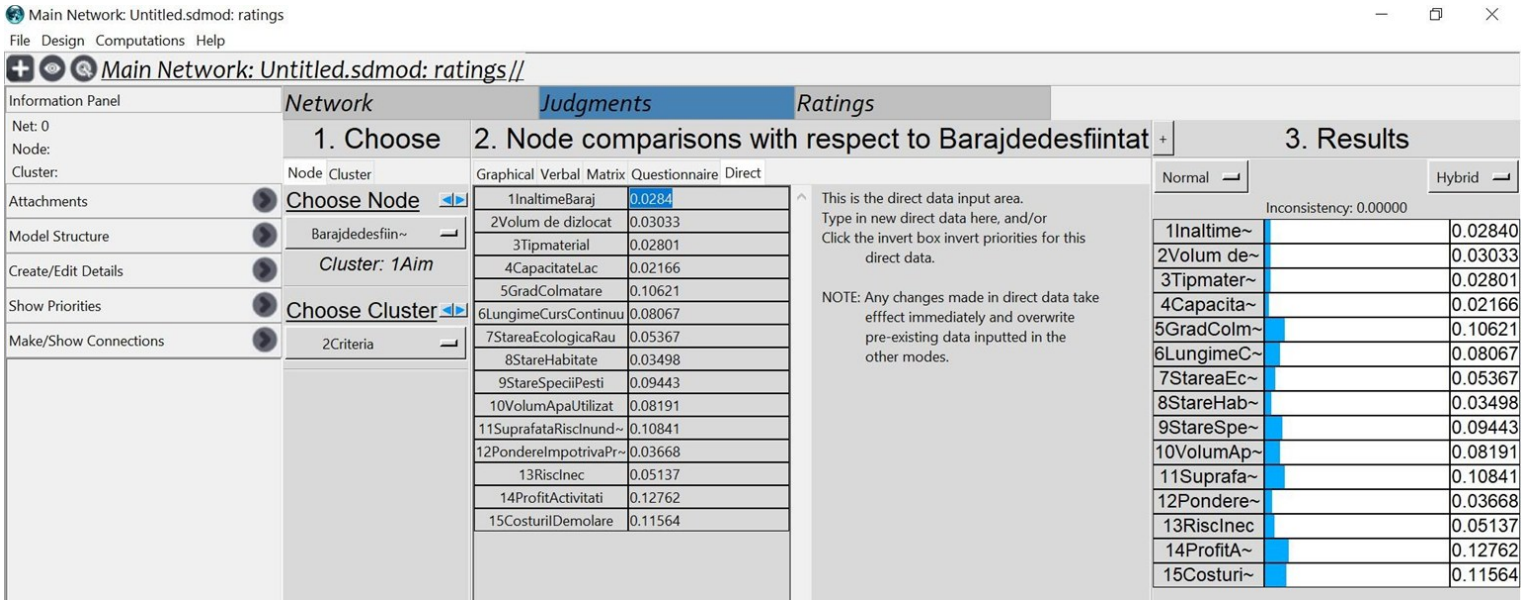
- height of the barrier
- volume of material to be displaced
- the type of material of used for construction
- technical and legal situation

Economy

- profits from the activities generated by the removal of the barrier
- decommissioning costs/ cost-benefit analysis

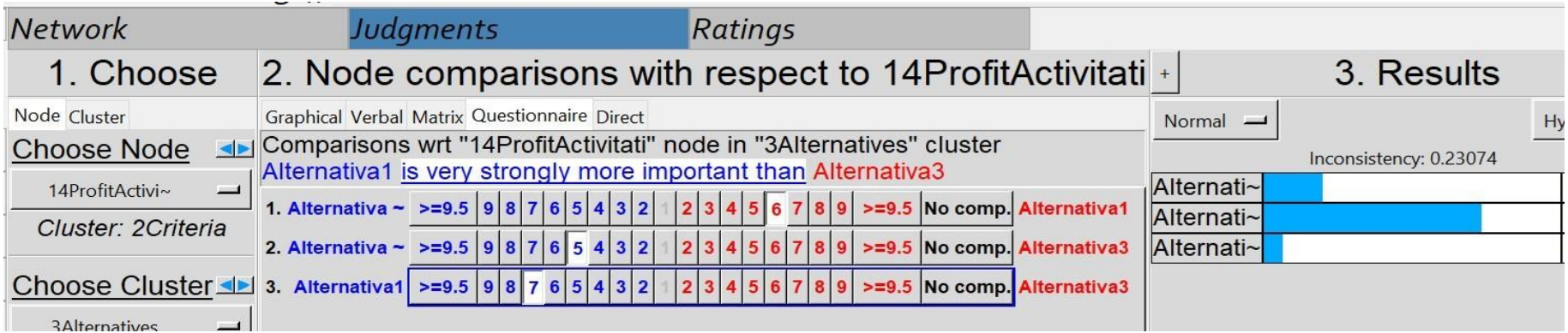
METHODOLOGY: weight of criteria

➔ Analytical prioritization process



METHODOLOGY: prioritization

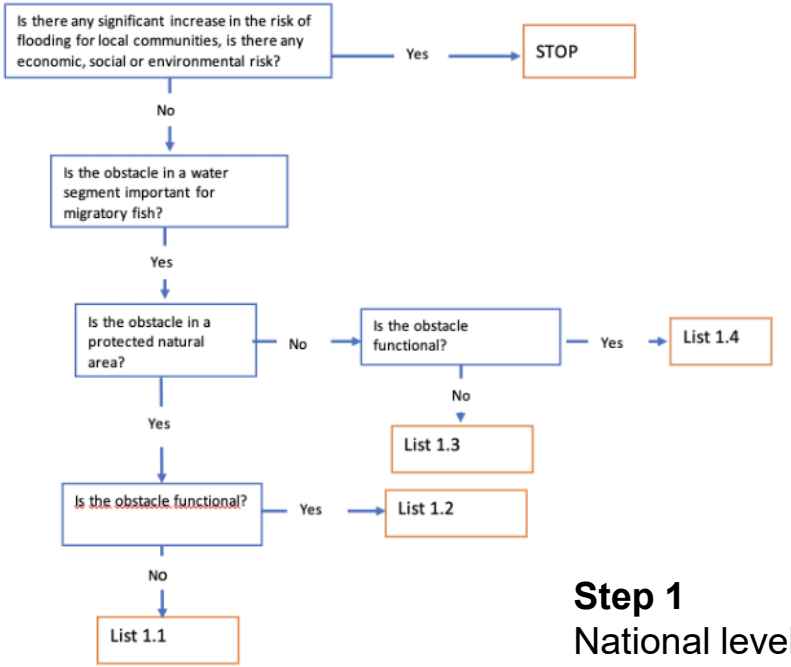
➔ Ranking scores based on a multi-criteria model

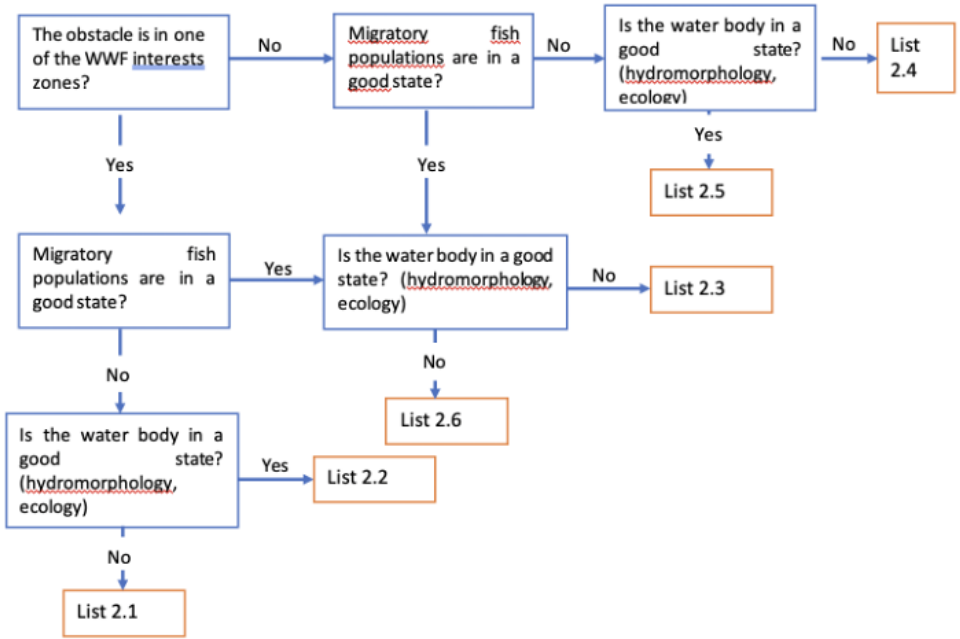


PRIORITISATION PROCESS

HOW?

Adapting the identification and prioritization methodology





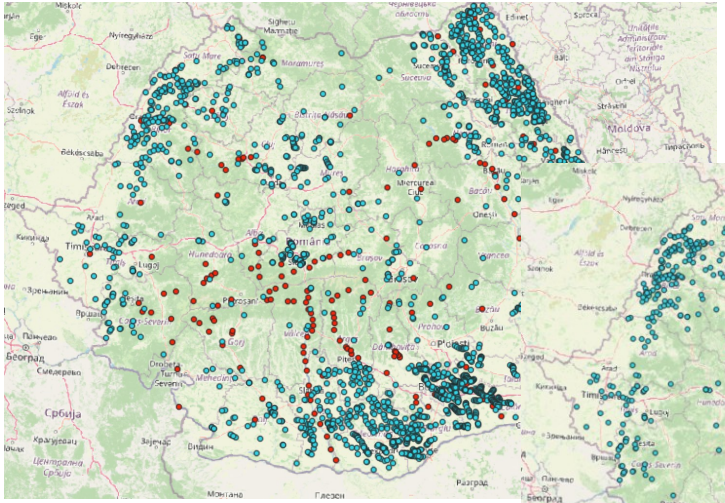
Step 1
National level

Step 2
Regional level

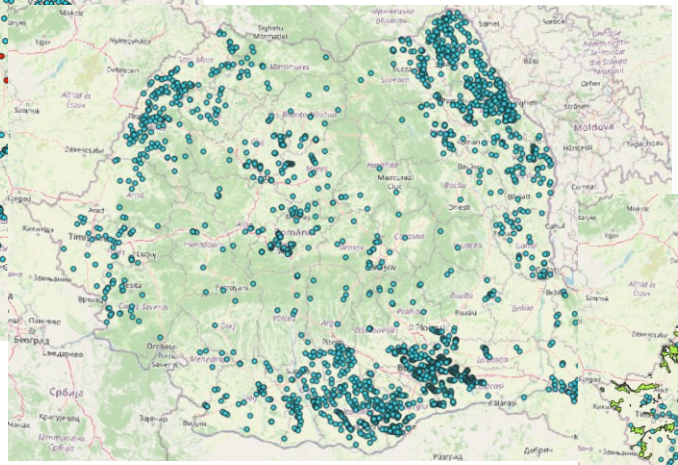
Step 3
Local level

PRIORITISATION PROCESS

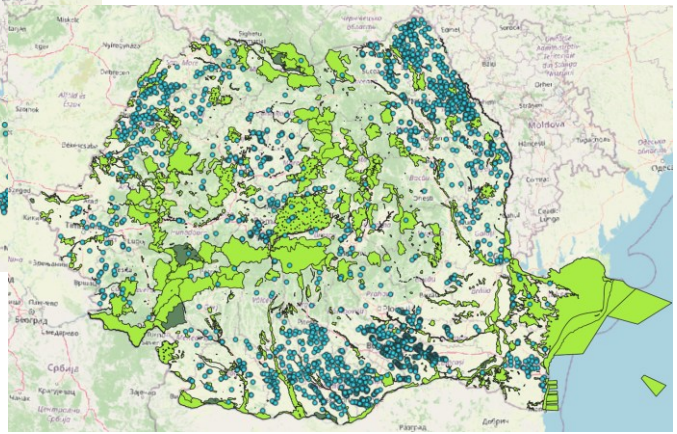
Barriers A, B, C, D



Barriers C, D



Barriers C, D in AP



BUILDING THE MOMENTUM

Protocol de Colaborare

încheiat la data de _____ între părțile semnatare:

Părțile:

- Administrația N Lucaci – Direct
- Regia Națională SIIULESCU – D
- Institutul Națion reprezentată pr
- WWF România – Director Gene

Parteneriatul este deschis de renaturarea ecosisteme

Art. 1 Scop

Prezentul Protocol are ca s activă în grupul de lucru p eliminarea obstacolelor ne construite din râuri, contrib

Administrația Națională „Apele Române"
Director General
ing. Sorin Lucaci

Regia Națională a Pădurilor - **Romsilva R.A.**,
Director General
ing. Marius - Dan SIILULESCU

Institutul Național de Cercetare-Dezvoltare în Silvicultură „Marin Drăcea" (**INCDS**)

Director General	Director economic	Consilier juridic	Responsabil contract
Șerban Octavian DAVIDESCU	Anghel ANGHEL	Cristiana CIOBANU	Alin MIHALACHE

WWF România - Fondul Mondial pentru Natură
Director General
dr. Orieta Hulea

Meetings with

- ➔ Romanian Waters Administration (ANAR)
- ➔ ROMSILVA
- ➔ ICAS
- ➔ Ministry of Environment
- ➔ Other NGO's (FFI)
- ➔ Faculty of Geography, Bucharest University

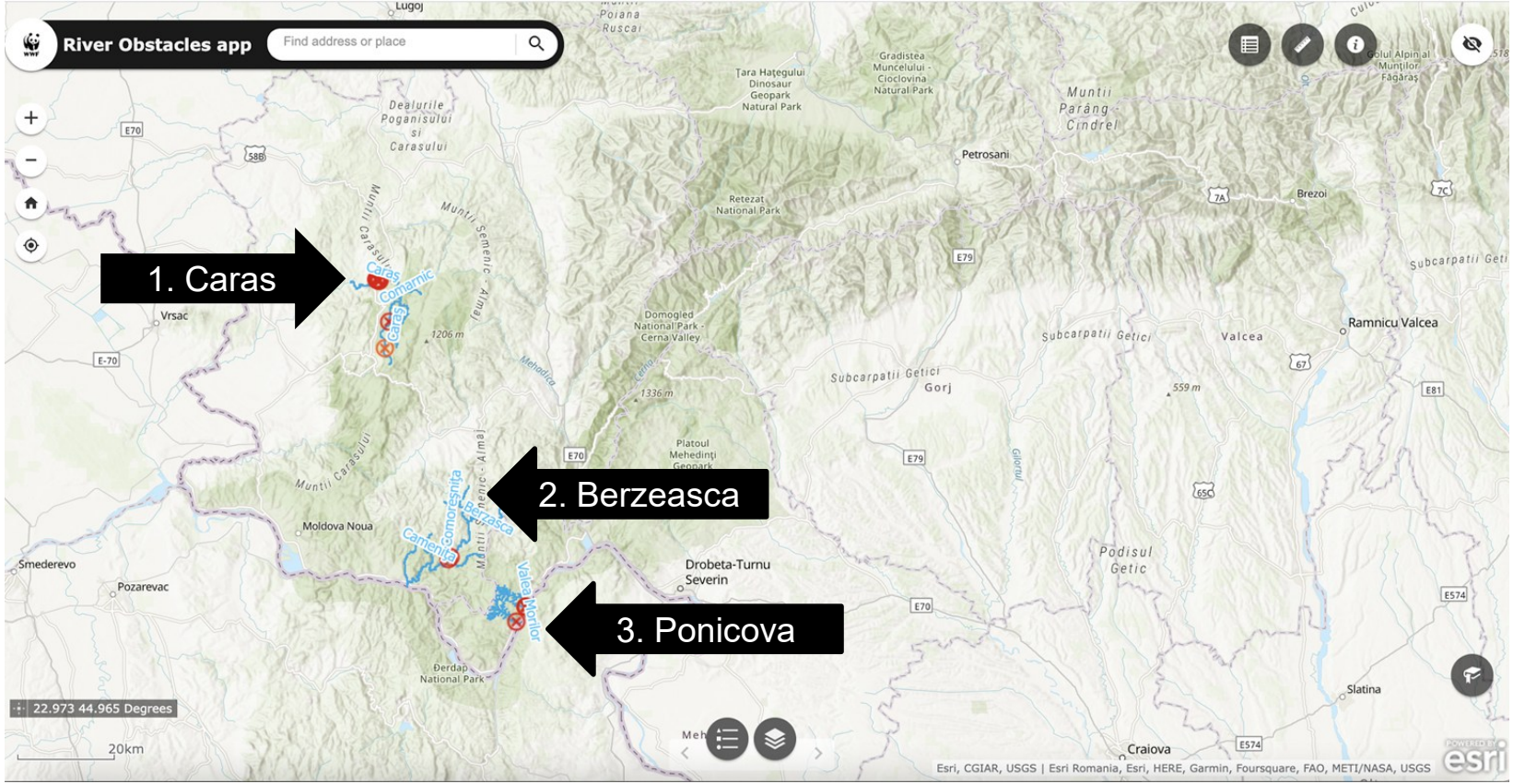
Cooperation agreement between

- ➔ Ministry of Environment
- ➔ Romanian Waters Administration
- ➔ ROMSILVA
- ➔ ICAS
- ➔ WWF Romania

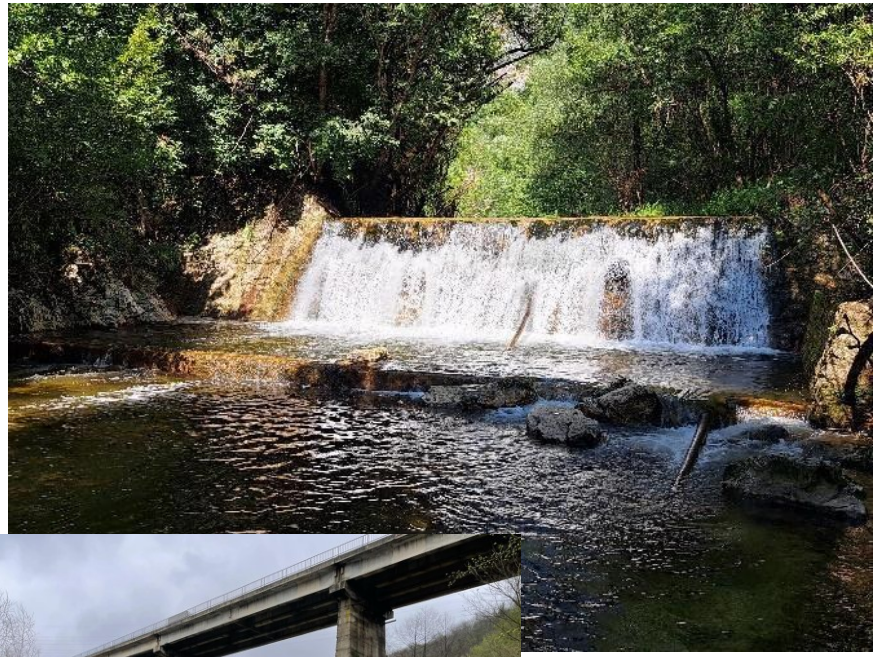
STUDY CASE WWF România

WHERE?

map



STUDY CASE: Caraș River



STUDY CASE: Caraș River

STAKEHOLDERS

- ➔ local authorities
- ➔ NGOs
- ➔ local business
- ➔ local communities
- ➔ research institutes
- ➔ educational institutions

STUDY CASE: Caraș River

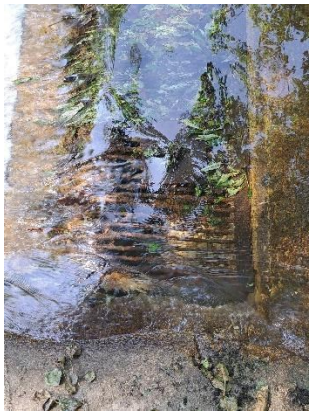
Barrier 1 (from upstream to downstream)
>administrator: ROMSILVA
>built aprox. 100 years ago
>purpose: water supply to downstream mills, currently it has function of retaining solid alluvium
>height: 3,5 m
>lenght: aprox. 15 m
>width: aprox. 1,5 m

Non-functional mill

STUDY CASE: Caraș River

Barrier 2

- administrator: ROMSILVA
- purpose: water supply to downstream trout farms (trout farms are currently not functional)
- height: 1.6 m
- length: approx. 15 m
- width: 1.2 m



STUDY CASE: Caraș River

Barrier 3

> Administrator: ROMSILVA

> purpose: it is crossed on the right bank by the pipe that supplied water to a former trout farm downstream

> Length = 21,00 m
> Width = 1,00 m
> High = 1,00 m

STUDY CASE: Caraș River

Barrier 4 (DN 58 Carașova-Reșița)

> administrator: ROMSILVA
> purpose: mitigating the floods on the Caraș River in order to protect the bridge support pillar
> height: 2.2 m
> length: approx. 15 m
> width: 1 m

STUDY CASE: technical solutions

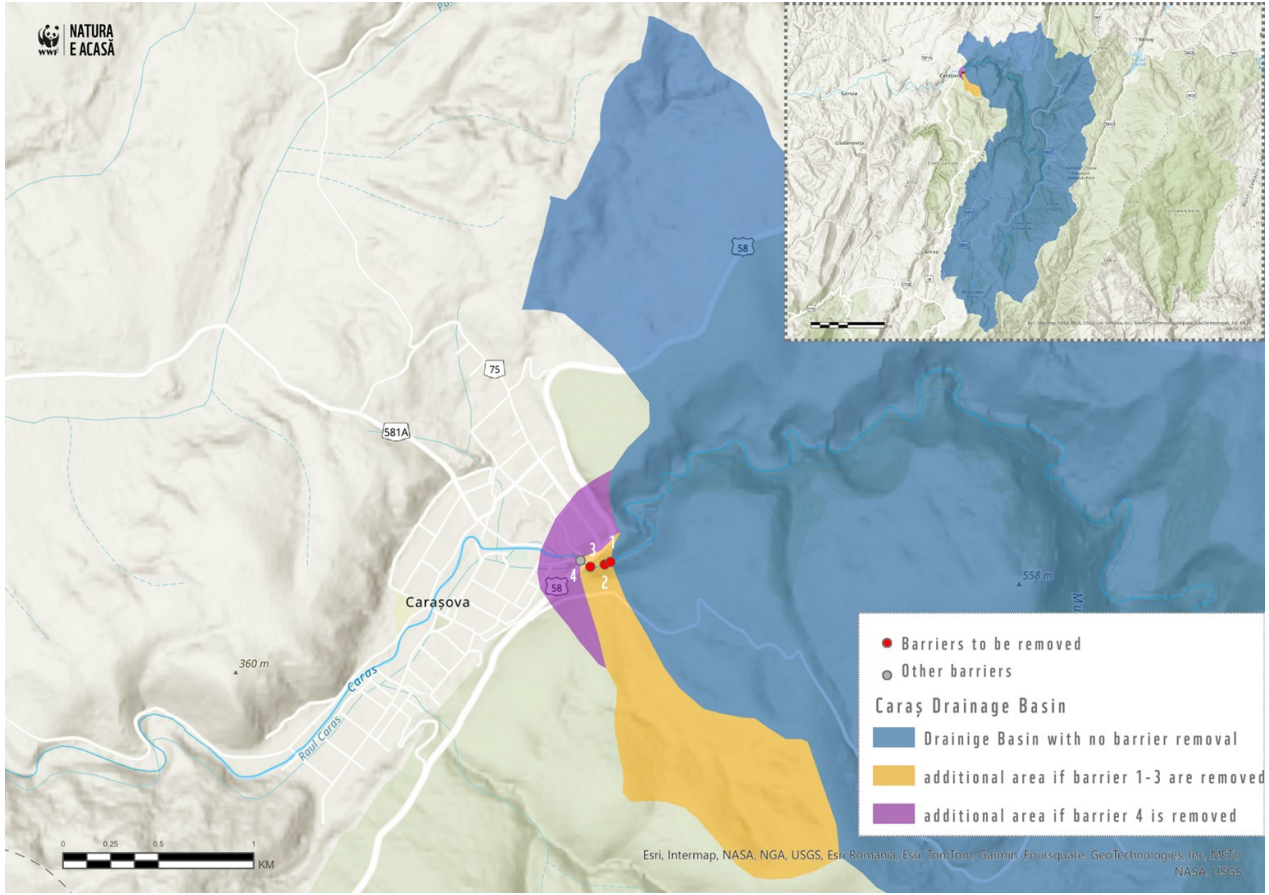
ZERO	REALISTIC	MAXIMAL
➔ No intervention	➔ Removal of 3 out of 4 barriers (1-3), barrier 4 with small interventions	➔ Removal of all 4 barriers, additional riverbed works needed

STUDY CASE: technical solutions

MEDIUM (barrier 1)

- ➔ (1) Se îndepărtează conducta actuală de oțel din albia râului;
- ➔ (2) Se calibrează canalul de aducțiune a apei către morile din aval, dar care va constitui și o parte a unui by-pass de trecere dincolo de barieră;
- ➔ (3) Se decupează o fantă în creasta actuală a deversorului pentru a dirija curentul principal de apă pe perioada înregistrării de debite mici către malul drept unde se va amenaja și pasajul de trecere amonte/aval;
- ➔ (4) Locația unde se va amenaja scara de pești necesară tranzitului în amonte de barieră;
- ➔ (5) Se vor îndepărta din albie elementele uzate, nefolositoare și care alterează peisajul natural.

STUDY CASE: technical solutions



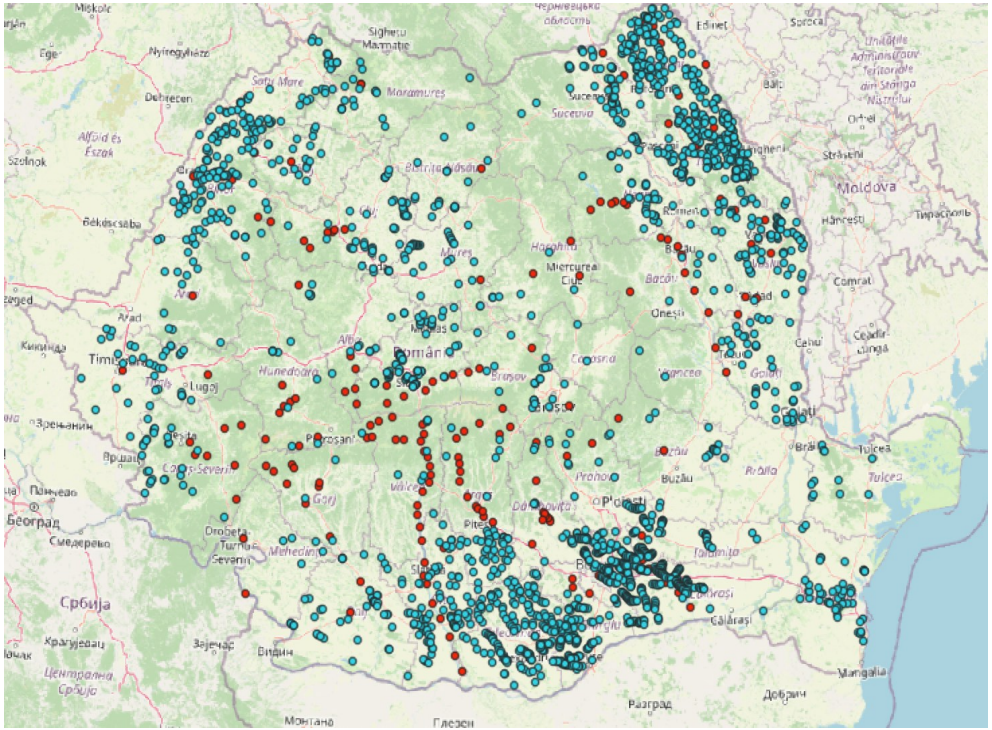
CHALLENGES & OPPORTUNITIES

To enable the maximum potential of the DR at national level, it is necessary to to clarify the juridical aspects of the barriers, especially the ownership. Thus, an important activity is to:

- Engage the key authorities in clarifying the ownership and responsibilities to pave the way for DR at national level (the result of a juridical study done under the ORP in 2023).
- The target in this case are The Ministry of Environment, the Dam Safety Department with their subordinate institutions, National Administration “Romanian Waters” and ROMSILVA as main administrators of the barriers and the Ministry of Finance as the “de jure” owner of the barriers.

NEXT STEPS

- ➔ Validate **other hotspots for dam removal** together with representatives of regional and local authorities based on the existing data (data analysis and validation on the field)
- ➔ Prepare **the concept notes** for the river stretches with high potential for dam removal and with high ecological impact
- ➔ Advocate to include these hotspots in the **NRP**
- ➔ Organising **events** to promote the barrier/ dam removal movement in Romania
- ➔ Attract as many institutions as possible to join the movement



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#NaturaEAcasa

Thank you!

WWF

Working to sustain the natural world for the benefit of people and wildlife.

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