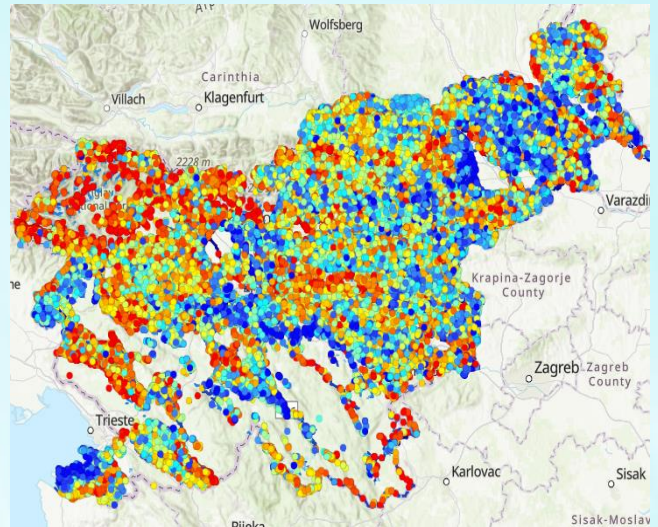


One critically important component of the EU's 2030 Biodiversity Strategy river continuity restoration target of 25,000 km remains: **the question of prioritization of rivers to restore by removing obstacles.** The Nature Conservancy has a successful history in **developing and applying prioritization tools for restoration efforts** in the USA. Therefore, a demonstration tool in a European setting was developed in partnership with Revivo Institute Slovenia, to showcase the utility of a prioritization-driven approach to system scale planning for river restoration work.



In-stream Barriers in the Adriatic & Danube Basins in Slovenia– Equally Weighted Scenario (in this instance with culverts excluded)

Datasets & Timeframe



5 Barrier Databases (AMBER; ARSO; GURS; DRSV; ZZRS)



Water Framework Directive Ecological Status (ARSO)

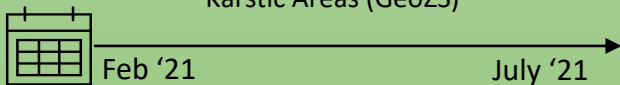


Protected Areas Slovenia (ARSO)

River Network (DRSV)

Land Cover (MKGP)

Karstic Areas (GeoZS)



Populating the tool with data available in Slovenia (see left) and identifying restoration objectives has proved that the tool can be applied for prioritising / identifying rivers for restoration in the EU setting focusing on river network functionality, continuity, catchment land use variables important biogeographical elements, protected areas and ecological integrity – Thus it is useful for different, and **customizable scenarios based on planning needs and priority objectives.**

For the purpose of this demonstration, four **different scenarios are displayed in the online interactive page ([Slovenia Prioritization](#))**, also see brief description of scenarios on the right-hand side of the page). Each scenario **reflect different conservation approaches**: For instance, if the interest is to identify/evaluate river continuity only, or to identify its contribution to the EU target. Alternatively, the tool also allows one to take a balanced approach, or a more nuanced/focused analysis of areas where ecosystems in relatively undisturbed sub-catchments can have their functionality and status improved even further – at potentially lower costs.

Scenarios

Equally Weighted

For the sake of demonstrating a “no preference” scenario

Restoring Continuity

Prioritizing barriers where removal brings most benefits to “River Functionality” (hydrogeomorphology)

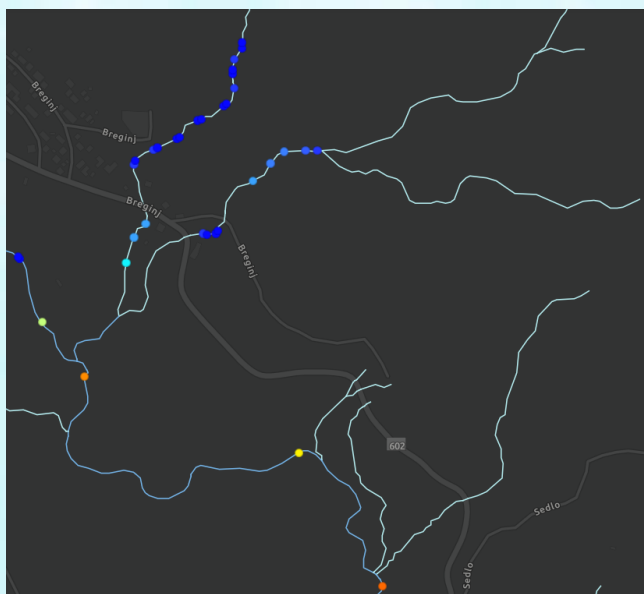
Reaching Good Ecological Status

Prioritizing barriers where the river network is the most fragmented and has low ecol. status

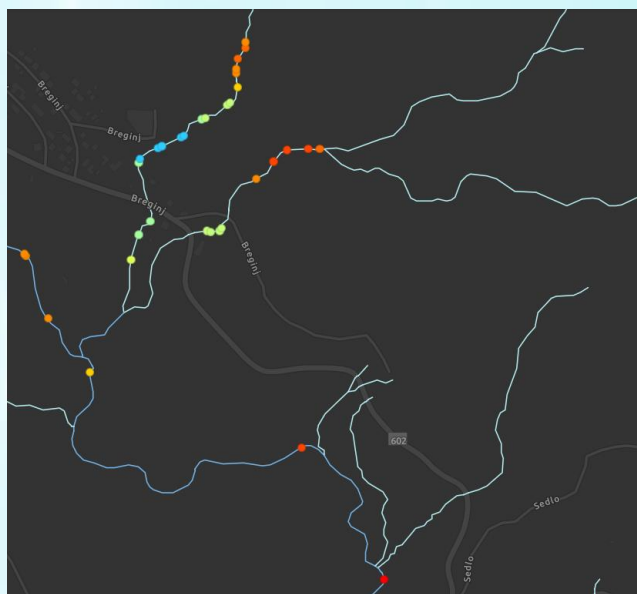
Boosting Preserved Rivers

Prioritizing barriers where rivers are the least fragmented in the river network, ecological status is high, and preferably located in protected areas

The ability to toggle between various scenarios and giving weight to different metrics, and variables within the metrics themselves, is where this type of prioritization excels at supporting project planning. In the figure below, for the same segment of river, two of the four generated scenarios illustrate and paint a **comprehensive picture of which different approaches to river restoration can be taken , and what can possibly be achieved through either .**



“Restoring Connectivity” (Red/Yellow spectrum high priority, Blue/Green spectrum low priority)



“Boosting Preserved Rivers” (Red/Yellow spectrum high priority, Blue/Green spectrum low priority)

One important fact to consider when doing country-level prioritization is the **necessary transboundary element**: without accounting for downstream barriers on a river draining into another country, it can skew a prioritization. It is therefore imperative that this is firstly acknowledged and tackled, but also that Member States look to cooperate on the prioritization of rivers, and take it to the necessary Regional or European level.

As the tool relies on heavily on data input, it must be considered that data sets differs across Europe, and thus this needs to be considered when developing a prioritization for barrier removal within Europe’s river network. Despite these points, **this demonstration tool is proof that this tool/prioritization effort can be effectively carried out within a short time frame.** Prioritization gets removal planning started – however assessing priority barriers with local knowledge and fieldwork will remain a necessity.

References

[Slovenia Prioritization Online Viewer](#)

[Assessing and Prioritizing Barriers to Aquatic Connectivity in the Eastern United States](#)

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What’s next?

The authors are happy to showcase and discuss the tool development process with interested parties.

For further reading on TNC’s methods for prioritization, please have a look at the reference material.