

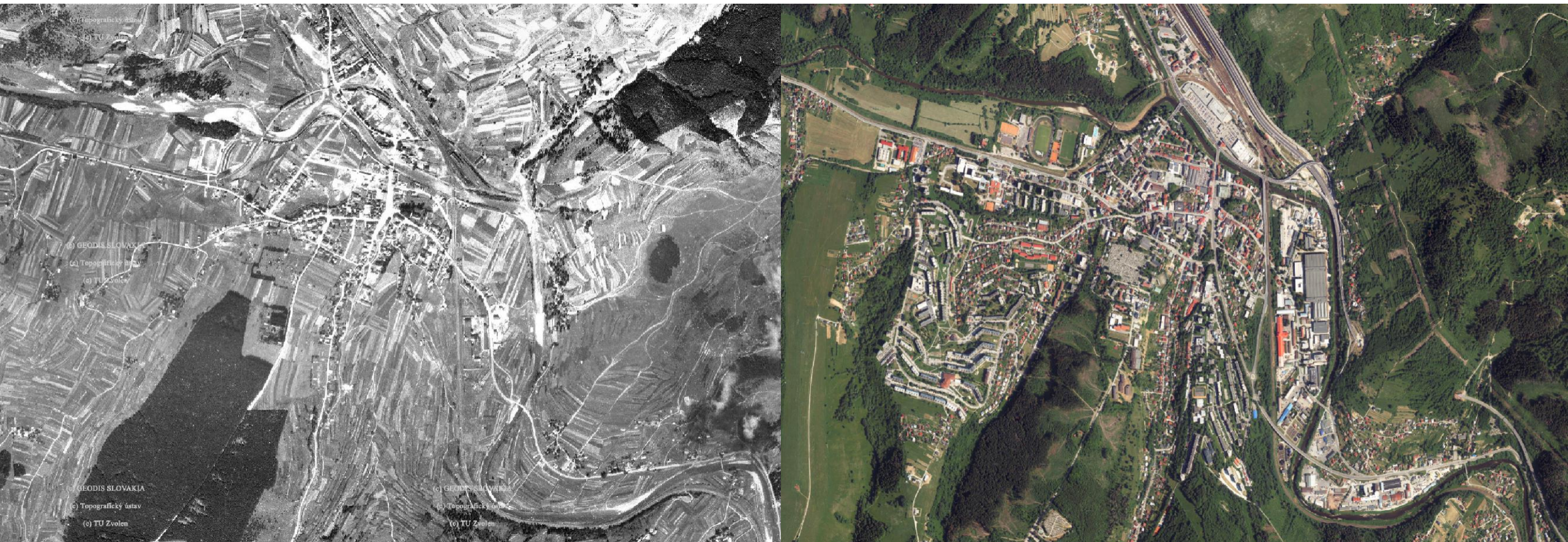
# Importance of fish conservation and connectivity restoration from biological viewpoint

Mgr. Maroš Kubala, PhD.



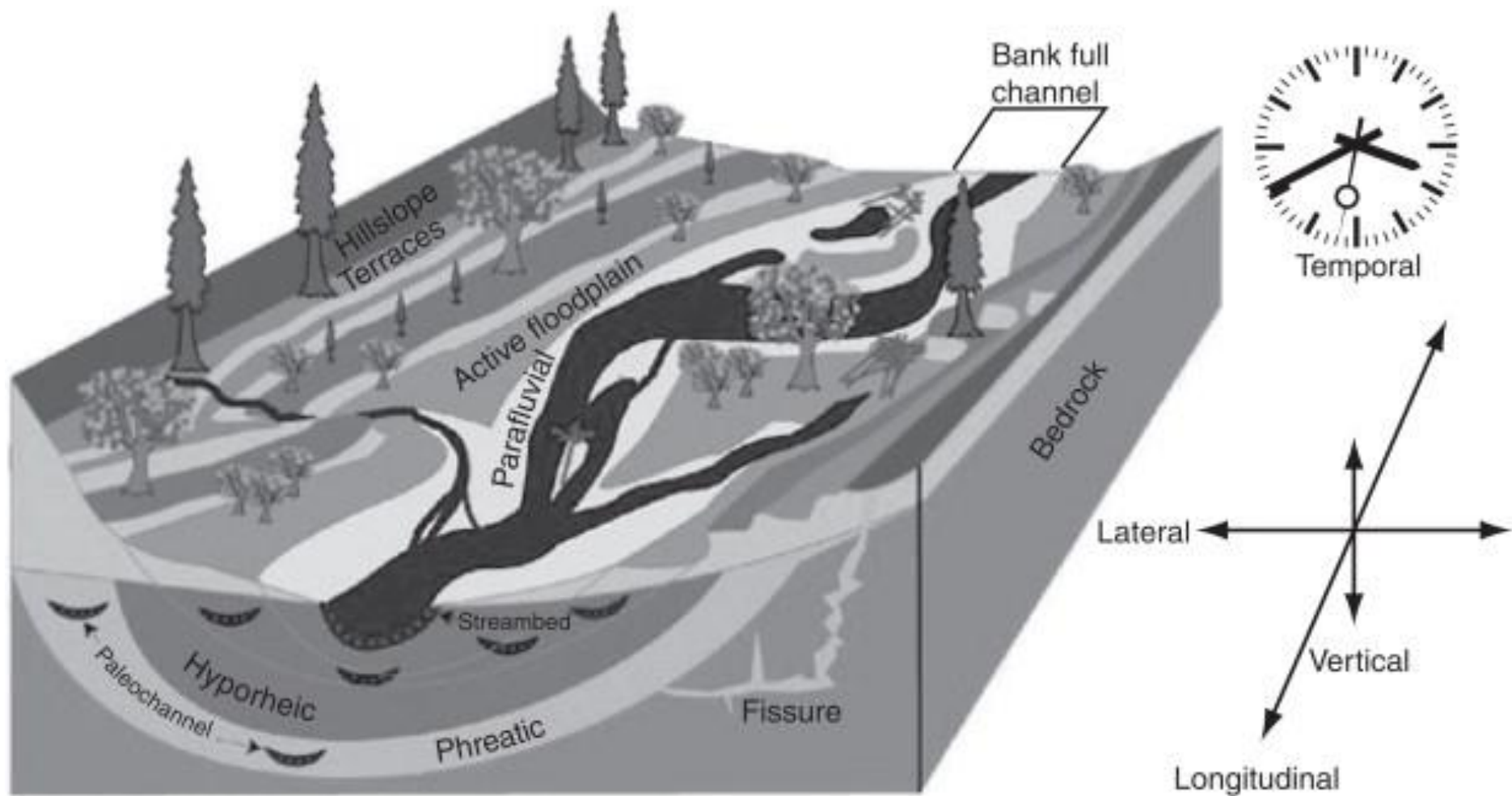
# Introduction

Everything is subject to change

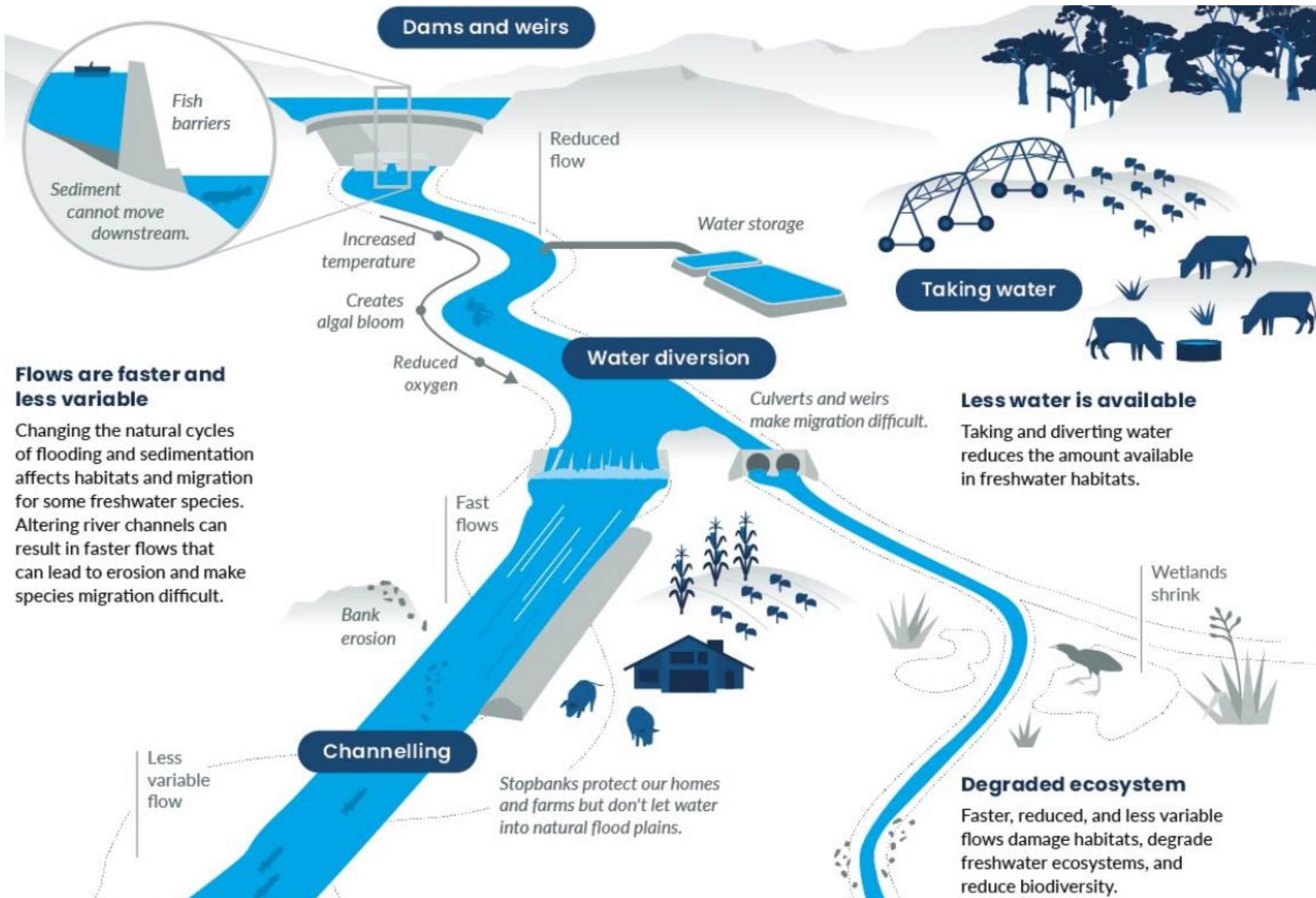


Source: <https://mapy.tuzvo.sk>





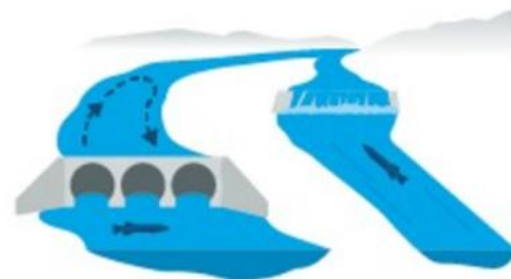
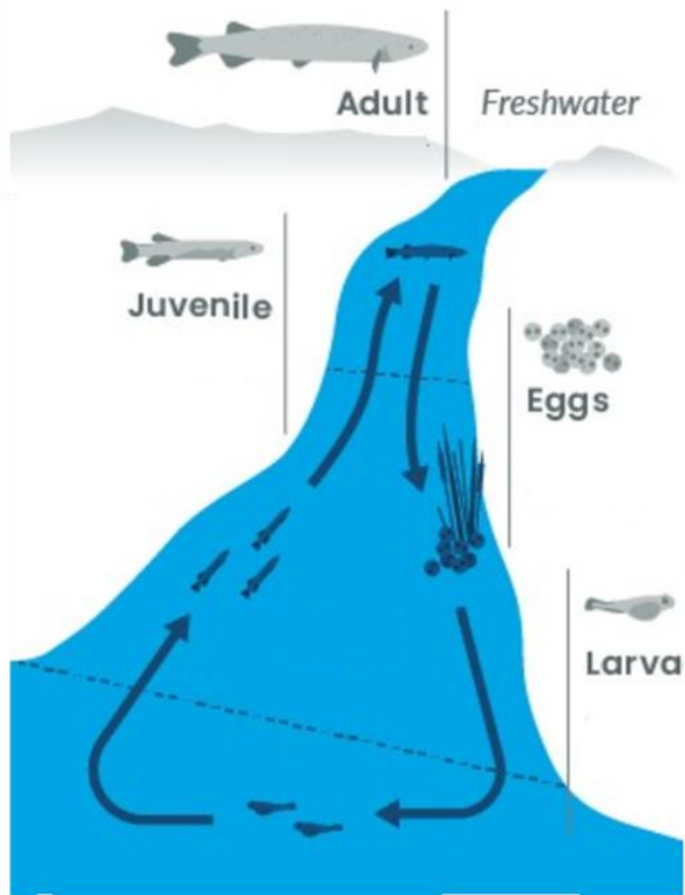
<https://www.sciencedirect.com/topics/earth-and-planetary-sciences/river-science>





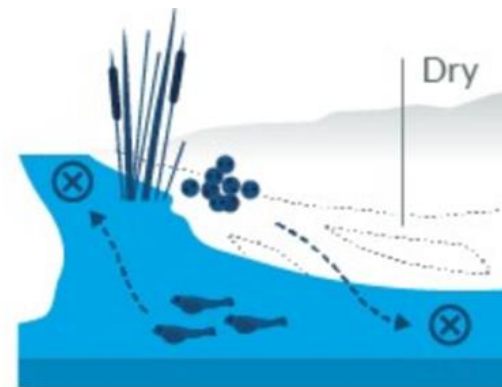




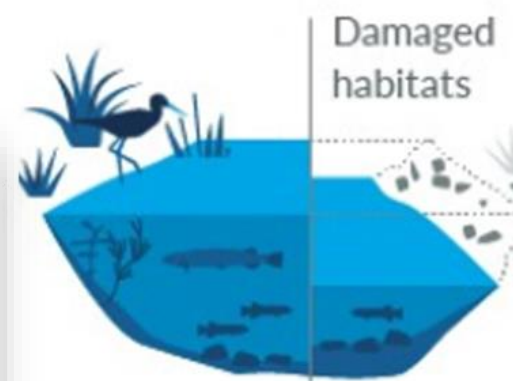


**Barriers to migration**

Life stages affected

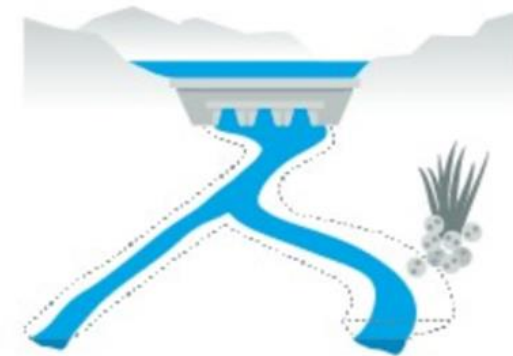


**Less variable flows**



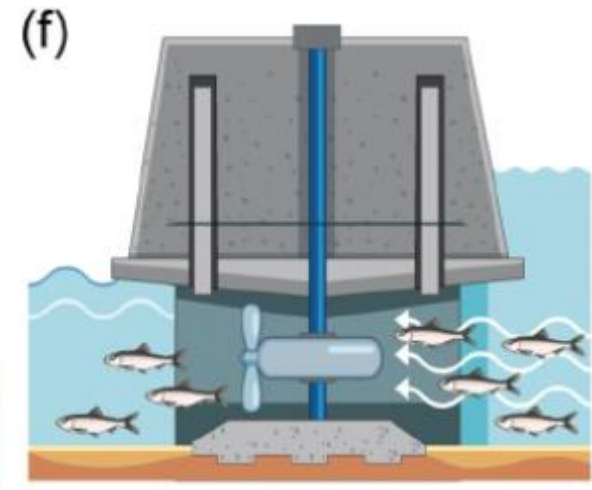
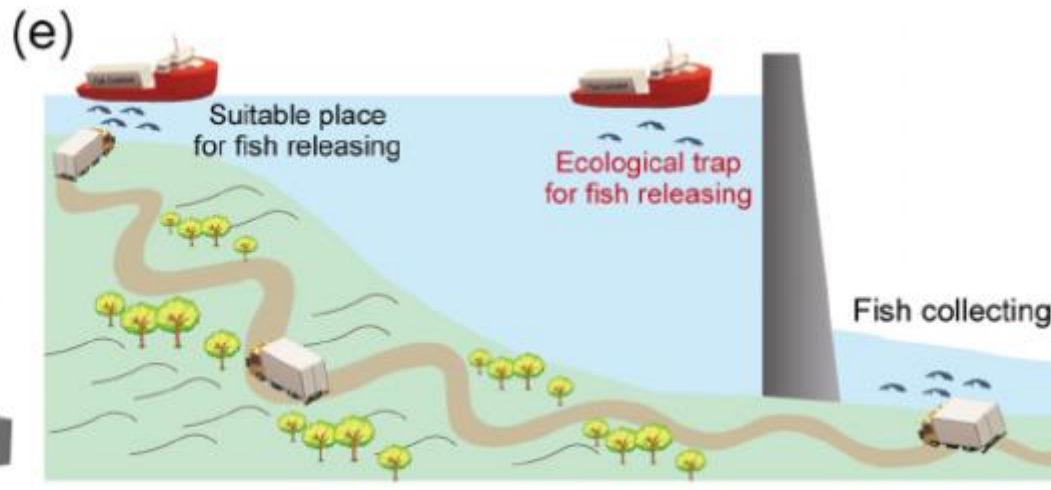
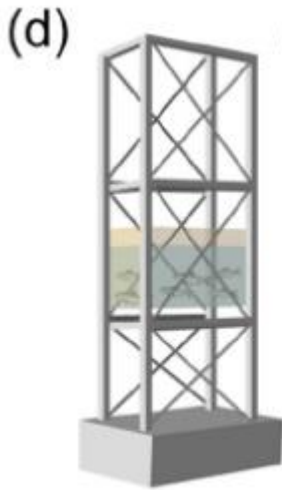
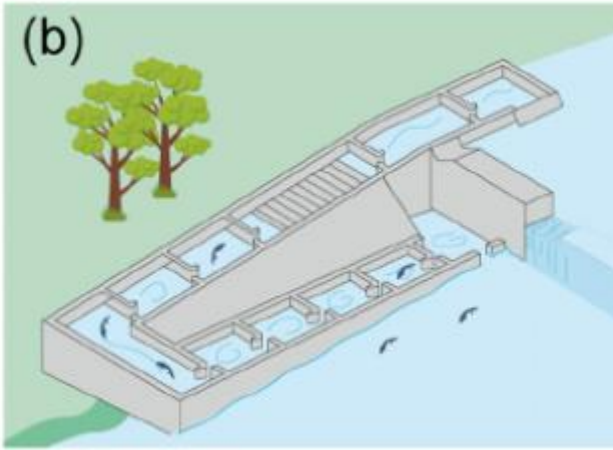
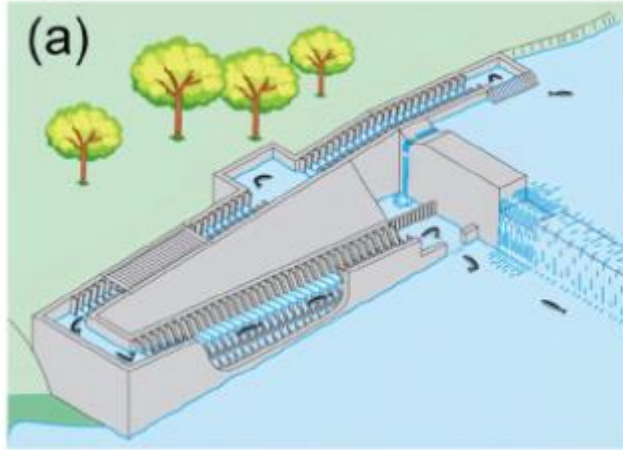
**Habitat shrinks**

Life stages affected



**Reduced flows**





Source: River Damming Impacts on Fish Habitat and Associated Conservation Measures, DOI:[10.1029/2023RG000819](https://doi.org/10.1029/2023RG000819)



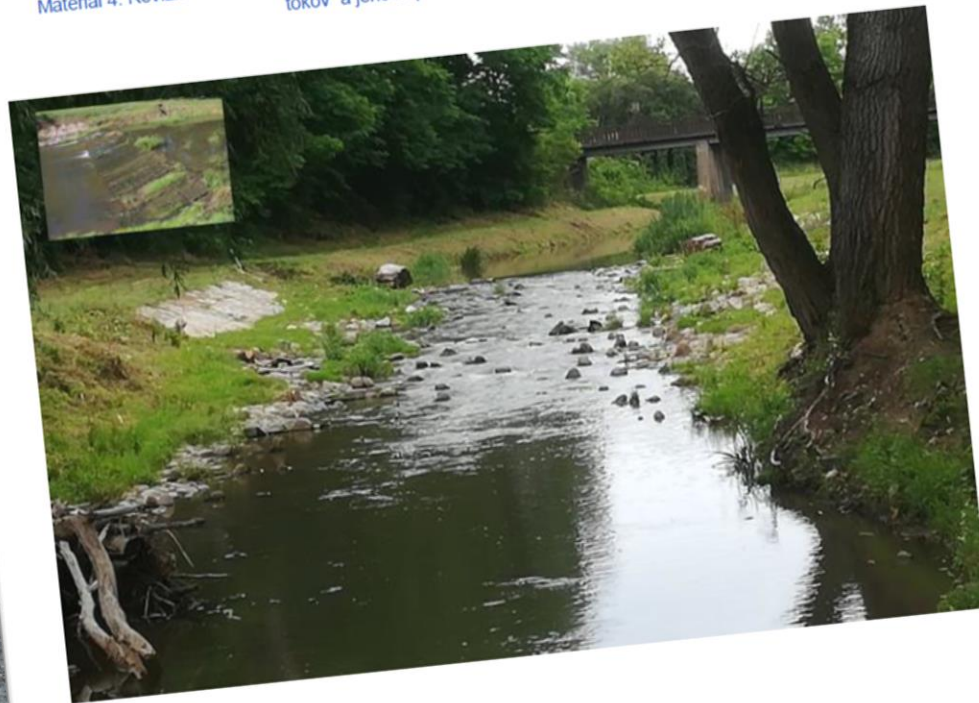
# Vúvh



Ministerstvo životného prostredia  
Slovenskej republiky

## Metodika spriechodňovania priečných bariér na vodných tokoch pre ichtyofaunu

projekt číslo 21501; názov: „Tvorba metodík a koncepčných materiálov, ITMS 2014+: NFP310010BAZ7“  
Materiál 4: Revízia metodického usmernenia „Určenie vhodných typov rybovodov podľa typológie vodných tokov“ a jeho doplnenie o najnovšie poznatky



# Vúvh

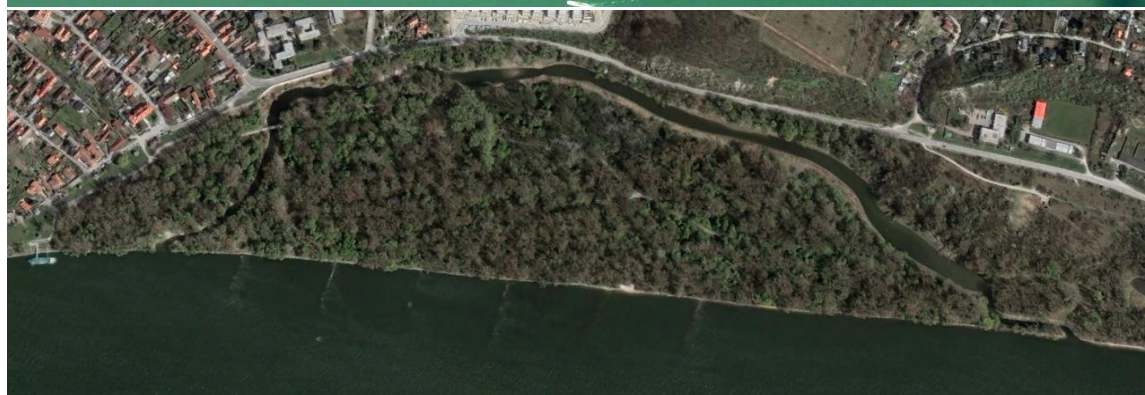
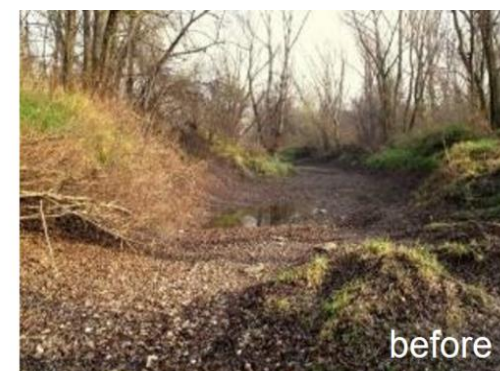
Výskumný ústav  
vodného  
hospodárstva

BRATISLAVA, NOVEMBER 2023

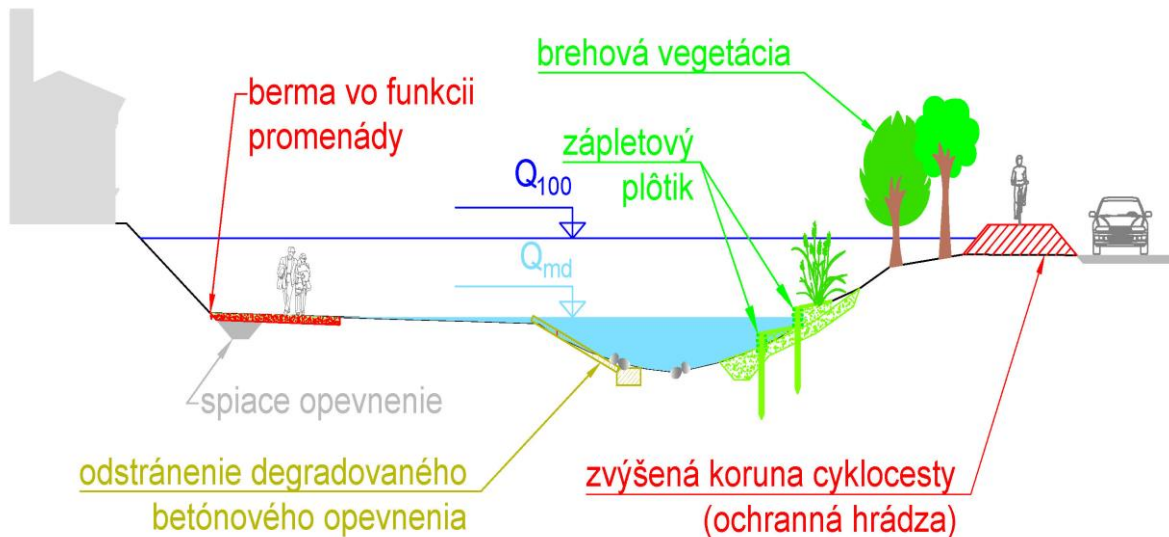


[www.vuvh.sk](http://www.vuvh.sk)



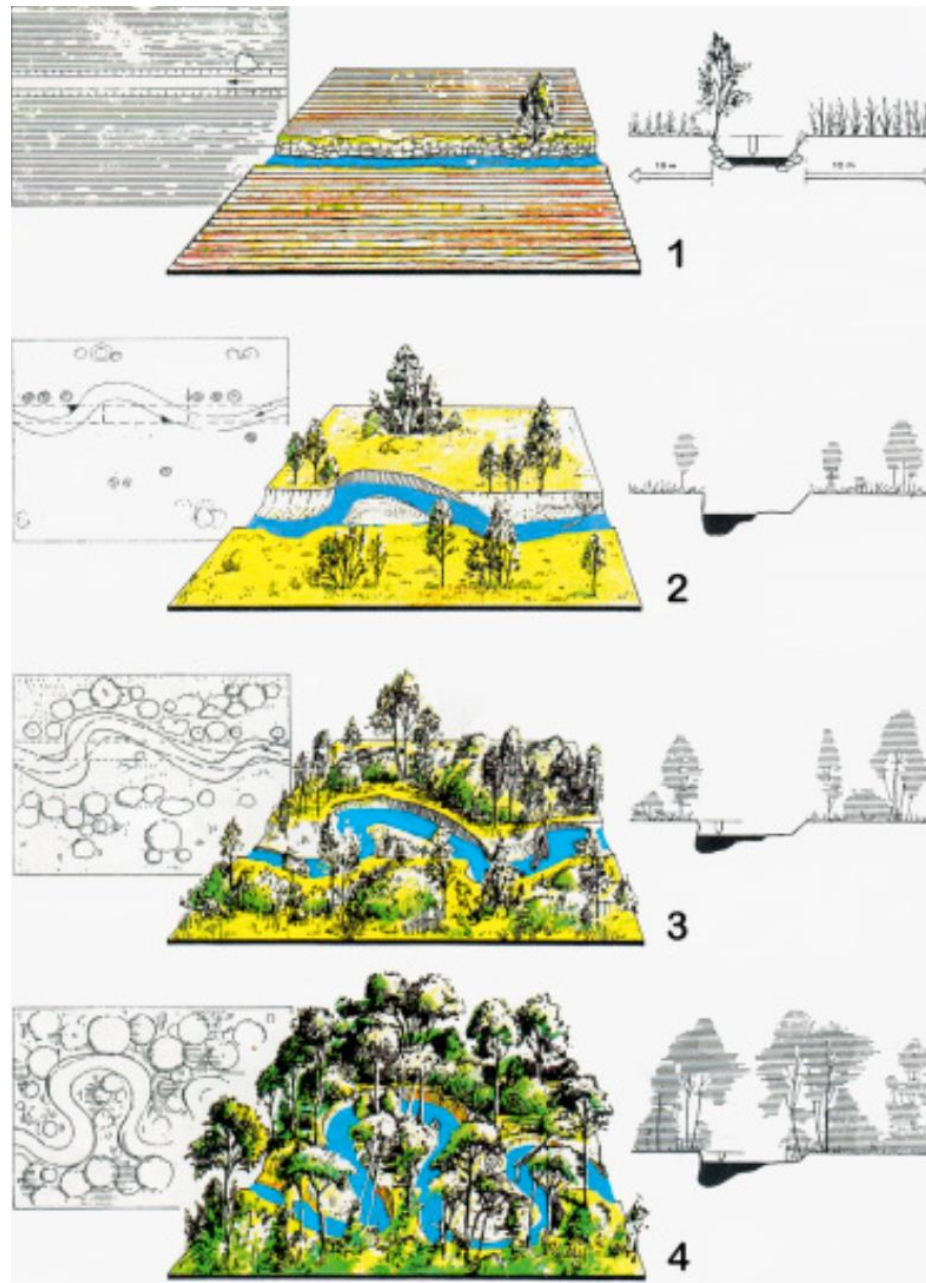
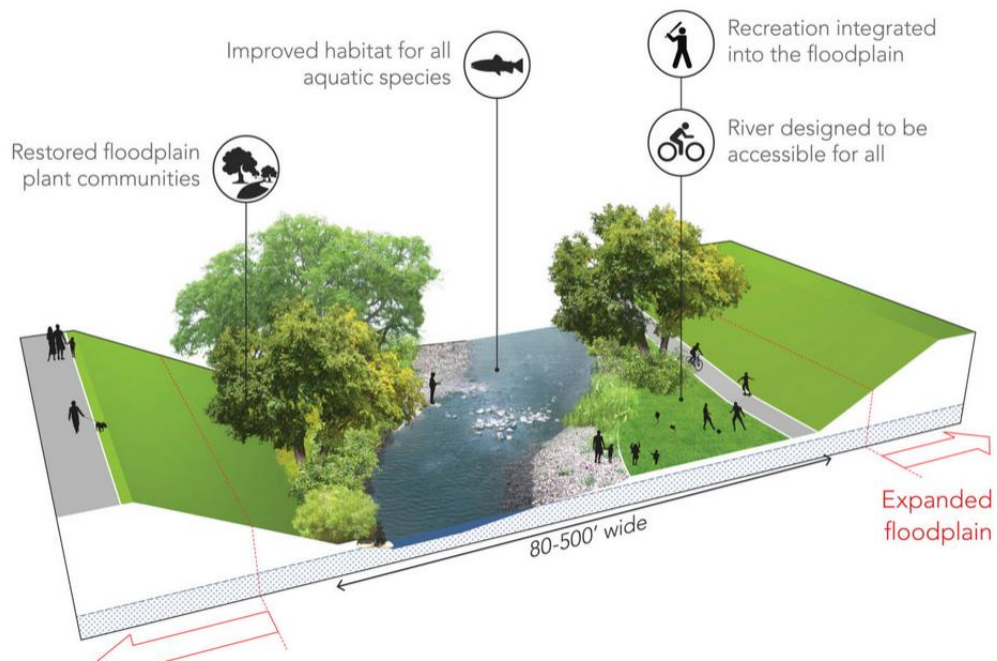






Source: STU

### FUTURE FLOODPLAIN EXPANSION



Source: [https://www.researchgate.net/figure/Steps-of-river-restoration-From-a-straightened-channel-back-to-a-natural-water-course\\_fig6\\_275589400](https://www.researchgate.net/figure/Steps-of-river-restoration-From-a-straightened-channel-back-to-a-natural-water-course_fig6_275589400)



# Conclusion

**Fish can be thought of as the most mobile component of aquatic ecosystems**

**All fish species exhibit migratory movement on a different scale**

**Human induced changes directly and indirectly reduce available habitat for fish species**

**All life stages of fish species are negatively affected**

**Restoring migration routes is just as important as mitigating habitat shrinkage via restoration**





Thank you for your attention!

