

Field excursion 1: ERRC2014 – SEE River Project Event

Lower Thaya river - Integrative river restoration and flood protection

The Thaya (in Czech Dyje) river is the border river between Austria and the Czech Republic. In its lower section, notably in the confluence area with the Morava/March river, this - formerly meandering lowland river – has still high ecological value terrestrial and aquatic ecosystems. Major regulation works in the 1970s-80s have triggered bed erosion and a silting up of cut-off meanders. The fall of the “Iron Curtain” facilitated first restorations in the 1990s with various effects in the riparian border zone, including the removal of bank protection and the one-sided re-opening of a disconnected meander. The built result, however, triggered an inflow of sediments at the inlet structure.

The lessons learned were recently used in the frame of a cross-border EU-ETC project to develop a modern, bilateral river restoration concept, assessing a full meander integration. A step-wise bilateral expert assessment process included special monitoring (fish, macrozoobenthos and dragonflies in line with WFD), the development of a leitbild, a deficit analysis (also on morphology) and morphological feasibility study. This eventually allowed to select the most suitable restoration measures, including a full re-integration of meanders in the border zone, while respecting other river corridor uses, notably flood protection.

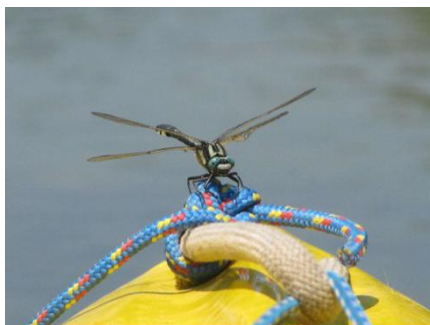
The trip will address the ecological degradation, meander integration, flood risks aspects and the chosen methods of implementing measures. The excursion will start in Hohenau (90 minutes' drive from Vienna) at the confluence of both rivers to present the effects of restoring the riparian zone. The second stop at meanders 4 and 5 will be used to reflect the river restoration concept on the base of the current ecological qualities, the identified biological deficits and the potential solutions.

After lunch in a local restaurant, the “famous” meander 18 will be visited to show the risks and the found solutions of meander restoration, both in terms of hydromorphology and biology. The entire trip will be guided by experts from both countries and various disciplines who will share their experiences with developing a cross-sector and cross-border restoration concept.

Tentative timing: 8:30 Start at from Tech Gate Vienna (conference venue)
 Lunch in a local restaurant at the Thaya floodplain (*meal included!*)
 18:30 Arrival at Tech Gate Vienna

Field trip hosts and guides:

viadonau (Austrian waterway agency)
Umweltbundesamt (Environment Agency Austria)
Riocom Consulting Engineers
Povodi Moravy (Morava river management agency), Czech Republic



Gomphus vulgatissimus, © Maria Schindler



Czech banks of the Dyje/Thaya river bed © Zinke

Pike-perch *Sander lucioperca* © Schabuss



Austrian fishermen cabin at the Thaya and a still connected meander © Zinke



Cut-off meander on Czech side © Zinke



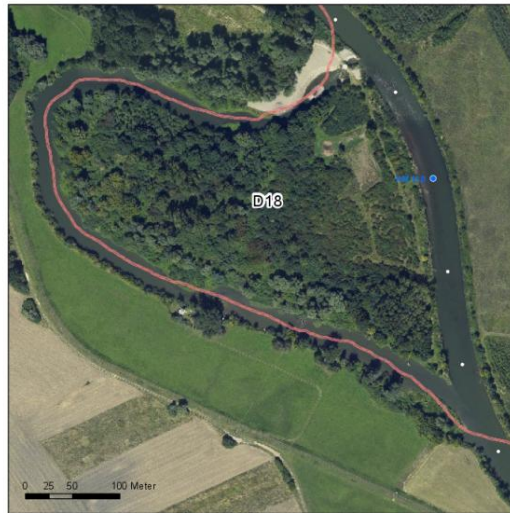
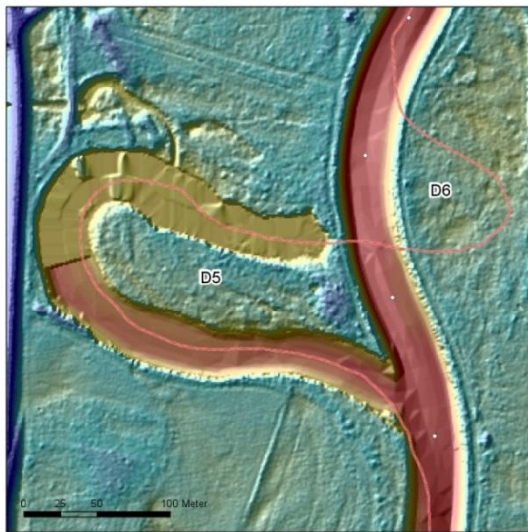
Hardwood floodplain forest on Czech side © Zinke



Indicator for river deadwood habitat:
Heptagenia flava © BOKU - Graf



Fish monitoring on Thaya: Catfish *Silurus glanis* and asp *Aspius aspius* © Schabuss



Thaya river (at right) and the targeted meanders 5 and 18 © riocom – Schwingshandl



Upper end of meander 18: Filled up with sediments after its reconnection © riocom - Schwingshandl, Zinke