

Field excursion 3: ERRC2014 – SEE River Project Event

Integrated flood protection systems at the Danube and tributaries

The very scenic Danube gorge of the Wachau hosts one of the oldest and most attractive cultural landscapes in Europe. Its steep mountain slopes, extended vineyards and orchards, medieval villages, castle ruins and famous monasteries (World Heritage Site) as well as river cruising, wine tasting and cycling along the Danube make it a top tourist destination.

The attractive character of the Wachau is also due to the fact that it remained one of Austria's two non-impounded Danube sections, though past waterway regulation led to various degradations. Since the "centennial flood event" in the year 2002, the need for an upgraded flood protection is evident but many riparian communes have no space for a big dike. The better response developed over the last years is a combination of improved flood space, notably in form of restored side-arms and more retention at tributaries, with innovative, local flood walls that are being raised up only during the flood event, thus preserving the attractive river corridor for tourism and local quality of life.

The first stop of this field trip within the city of Krems (one hour upstream from Vienna) will present the restoration measures at the Krems river in the urban landscape: The formerly strongly modified river bed - often subject to flash floods - was rebuilt into a more natural bed that attracts local people. At the Danube cruise ship pier of the historic river town Krems-Stein, thousands of tourists arrive by cruise ships without noticing the flood protection facility that is hidden in the ground: a combined fixed and mobile protection wall system.

A short bus drive upstream to the village of Oberloiben will serve to explain at the current construction site the technical design and needed earth works to build the flexible flood wall system. Lunch will be served on the other banks of the Danube at Rührsdorf, a small wine village right on Danube side-arm that was recently restored by an EU-LIFE project. The new modern flood protection is integrated into the village and worked very well at the latest "centennial flood" in June 2013.

The visit at the village of Oberarnsdorf will allow to see another local form of combined flood walls and to take a walk along the famous Danube cycling route and orchards. A ferry crossing will provide a special river scenery experience to reach the commune of Spitz: This last stop will lead to the local storehouse for mobile flood wall elements that are put together within hours by the local fire brigade.

Tentative timing: 8:30 Start at from Tech Gate Vienna (conference venue)
Lunch at typical restaurant in Wachau (*included!*)
18:30 Arrival at Tech Gate Vienna

Field trip hosts and guides:

Hydro Ingenieure - Engineering Company for Environmental Technology and
Retter & Partner Engineering Consultants



Krems river sites before and after re-building and restoring the urban river bed; guided by a new flood wall. The bottom weirs are replaced by rocky structures facilitating fish migration. © Hydro Ingenieure



Danube pier at Krems-Stein: Tourists standing on the embedded flow wall foundations © Zinke



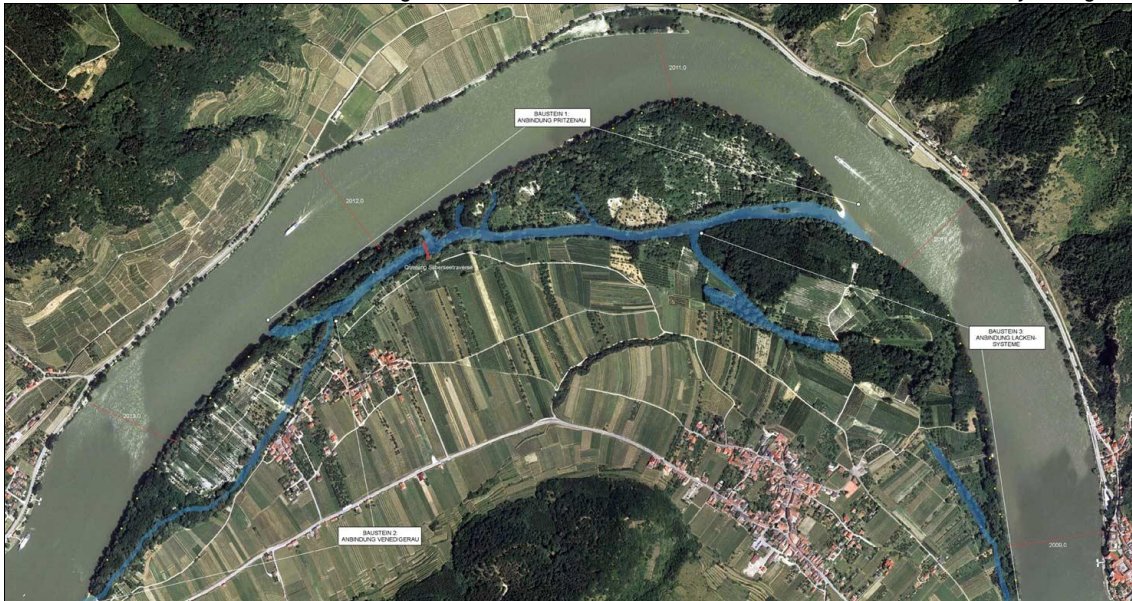
Flood 2013 in Krems with the set-up mobile wall © APA-Roland Schlager



The reconnected Danube side-arms and floodplain island at Rührsdorf. © Markus Haslinger



Rührsdorf: new combined flood wall at the June 2013 flood © Hydro Ingenieure



The reconnected Rührsdorf-Rossatz side-arm and floodplain system © Freiwasser



Oberarnsdorf: Fixed base of the flood wall, Danube cycling route and flood 2013 © Zinke, Hydro Ingenieure



Operation of the volunteers fire brigade of Spitz during the flood event in June 2013 © FFspitz.at