

Concept Planning: Sidearm Reconstruction at Rácalmás

Danube Island

E.3.4 Sharing WILDIsland with cross-sectorial partners

River regulation led to general habitat loss along the river Danube during the last centuries. In the same time, several stakeholder interests have generated ever-growing pressure on the river. Representatives of flood protection, navigation, energy production, angling activities, tourism and sport recreation all have different ideas about 'good' Danube and its optimal hydro-morphology, which causes conflicts between these sectors. Most important steps for properly managing Danube could be a complex, holistic concept plan, which aims to benefit for all, or at least – realistically – most of the sectors.

Main objectives of the concept plan

On the 'Fejér' county section of Danube (Central Hungary), natural or even semi-natural sidearms could hardly be found. **One of the main objectives of the planning process would be opening of a sidearm and therefore significantly improving the water supply on the island directly benefiting the target habitat of 91E0 (see map no. 1).** This concept plan could be the first step toward the restoration of close to natural conditions of this site, generally resulting in a higher biodiversity and increased feeding, nesting, spawning and resting area for a variety of wetland species.

Other objective of the planning is examining the possibility of removal or modification of old regulation structures (groynes), which were built along the riverside of the island to improve the navigation channel (see maps no. 2-4). This removal or modification (e.g. partial deconstruction close to the island) can result in new habitats, better flood protection potential, new spawning areas for several fish species, and due to the increased water surface, an improved microclimate in floodplain forests and mitigating the negative effects of climate change. The newly created sidearm would be a slow-flowing water body previously common in this section with several little bays surrounded by small patches of grass and reed providing an excellent network of wetland habitats.

During the planning process, **a comprehensive, inter-sectorial expert study has to be done** to find the best alternatives, making sure we are covering all known and relevant aspects. This intensive communication between the various sectors within Action E.3 will increase the level and the quality of cooperation in the long run. **Joint data collection and analysis** carried out by several external experts (biotic – nature conservation and abiotic – water management) and discussion on necessary land use changes (all sectors) are also foreseen in the project. **Applying state of the art hydro-dynamic 3D modelling** ensures high quality analysis of alternatives. Due to the joint communication, **a preliminary concept plan will be formed**, that can be used as a good practice in other similar sections of the river Danube. Data collection and modelling are estimated to cost app. 30 000,- EUR each.

Target area of the concept planning

The planning area is a part of the Rácalmás Island Nature Reserve, which is a protected natural area of national interest and also belongs to the Natura 2000 site of 'Danube and its floodplains' (HUDI20034). The full size of the nature reserve is 382 hectares.

The Rácalmás Island Nature Reserve was designated to preserve the area's alluvial and riparian forests – in the past they were extended along the riverside and characteristic to this section of the river

Danube, but recently these forests have dramatically shrunk to patches. The nature reserve includes the so-called 'Nagy Island' at Rácalmás and several little transitory islands in the river. More than 50% of the island's forests are planted, however, relatively large blocks of riparian mixed forests with *Quercus robur*, *Ulmus laevis* and *U. minor* can be still found here. The valuable species of the island's herbaceous vegetation are the protected *Scilla vindobonensis* and *Leucojum aestivum*. The strictly protected *Haliaeetus albicilla* (White tailed eagle), *Milvus migrans* (Black kite) and *Ciconia nigra* (Black stork) are regularly nesting on the island. Hundreds of stocks of several species from the *Anatidae* family rest here during winters.

The exact area of planning is situated between the Rácalmás island and the secondary habitats of gravel banks (or little transitory islands) along the entire riverside of the island created by river regulation structures in the past. See the maps below.



Map no. 1: Opening of the sidearm (the inflow section is shown by blue arrows) by dredging the previously used old inflow channel. With this action a steady and slow supply of water is expected, which would help preventing the future deposit of sludge.



Map no. 2



Map no. 3



Map no. 4

Maps no. 2-4: Removal of modification of 3 groynes along the main island.

Expected long term results on Natura 2000 species of a possible future implementation

Occurrence of rare Natura 2000 fish species in the relevant river section is known: *Aspius aspius*, *Rhodeus amarus*, *Romanogobio vladykovi*, *Misgurnus fossilis*, *Rutilus pigus*, *Sabanejewia* sp. All of those species needs lenitic litoral zones at least in some of their life phases. Due to a carefully chosen planning method, it can be expected, that new habitats created by modified structures will have lenitic zones with a variable velocity and riverbed material.

Annex I: Declaration by Duna-Ipoly National Park Directorate



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Declaration

for Action E.3.4 Sharing WILDIsland with cross-sectoral partners

Concept planning for modification of waterway infrastructure in the Duna-Ipoly National Park Directorate on the Rácalmási island

The conservation and restoration of the Rácalmási island is one of the priorities in the work of the Duna-Ipoly National Park Directorate in the upcoming years.

The LIFE WILDIsland project provides the unique frame to bring together the experience of different sectors (e.g. waterway, nature conservation, water management and forestry) related to the river Danube on national and regional level. Furthermore, the transnational partnership of LIFE WILDIsland and the intense experience exchange within the project consortium ensures a best practice river restoration concept for this location.

The entire process of concept planning proposed in Action E3.4 will be an excellent opportunity to discuss and clarify all fundamental and potentially conflicting questions between the various stakeholders and will hopefully result in the provision of the initial legal permissions. In addition, such an official procedure could upgrade the otherwise general project meetings. Pending a successful concept planning, the implementation of the restoration will be the logical next step.

This declaration is to confirm that the concept elaborated within LIFE WILDIsland will be the base for the future conservation and restoration actions related to the areas in question on the Rácalmási island, initiated by the Duna-Ipoly National Park Directorate during and after the project period. The Duna-Ipoly National Park Directorate, as a public body, hereby confirms – in the case of a successful planning process – to take all reasonable steps to apply for available EU funds in the future for financing the full implementation.

Budapest, 10 June 2021



Mr András Fűri

Director