



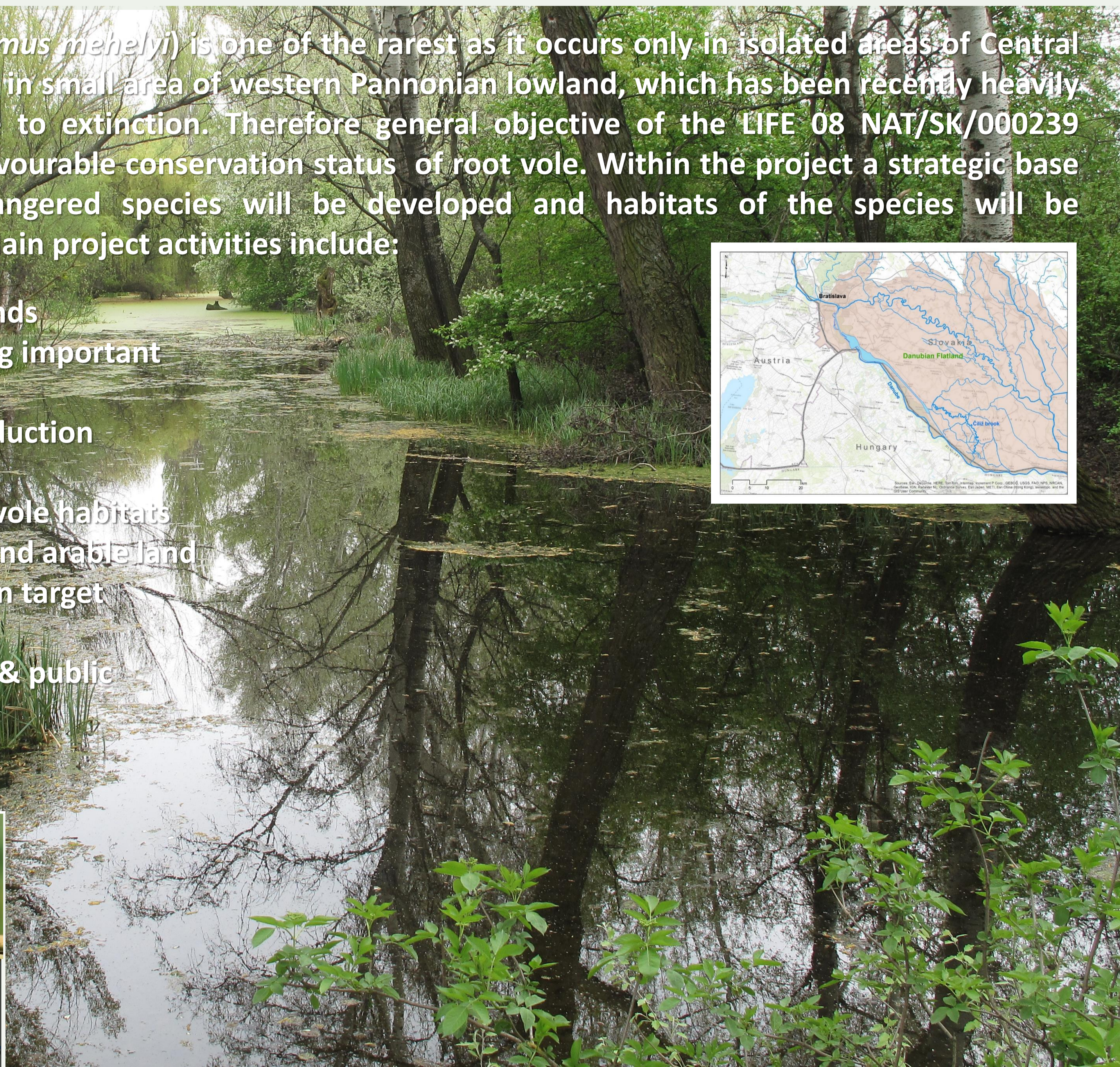
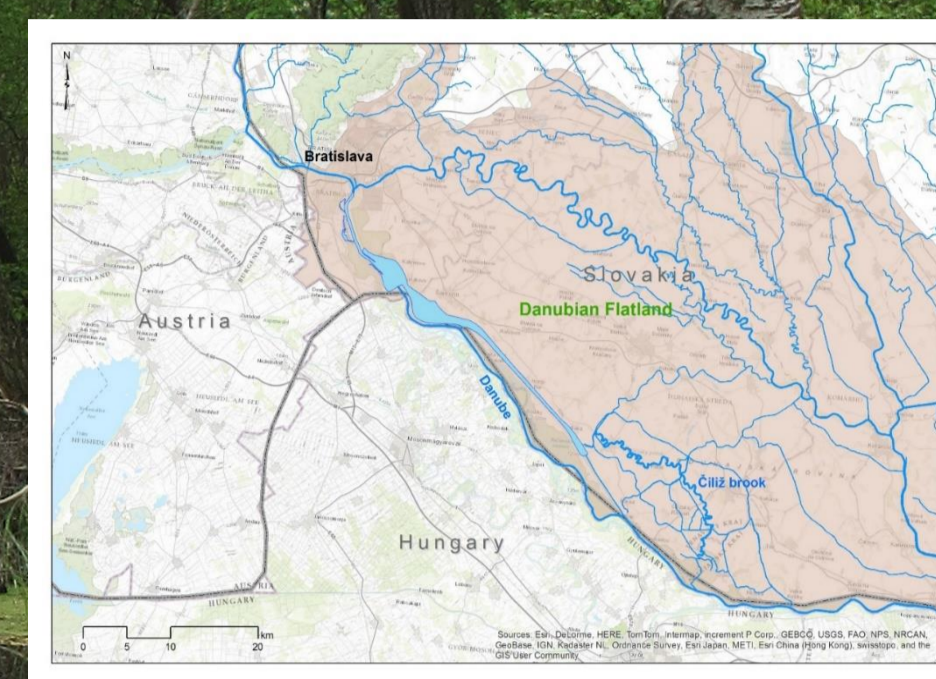
LIFE 08 NAT/SK/000239

Conservation of root vole & restoration of its habitats along the Čiliž brook and adjacent wetlands

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Pannonian root vole (*Microtus oeconomus mehelyi*) is one of the rarest as it occurs only in isolated areas of Central Europe. The whole population is living in small area of western Pannonian lowland, which has been recently heavily fragmented and therefore susceptible to extinction. Therefore general objective of the LIFE 08 NAT/SK/000239 project is to improve the recently unfavourable conservation status of root vole. Within the project a strategic base for successful recovery of this endangered species will be developed and habitats of the species will be restored/improved on selected sites. Main project activities include:

- Habitat restoration of selected wetlands
- Restoration of biocorridors connecting important wetland areas
- Land lease/purchase -following introduction of appropriate habitat management
- Restoration of wet meadows as root vole habitats and buffer zones between wetlands and arable land
- Acquiring of relevant scientific data on target species and its habitats
- Awareness rising of key stakeholders & public



Small meandering lowland river-Čiliž brook (~38 km) was reconnected with the Danube anabranch system in the past. Since 19th century the water regime was influenced by construction of the Danube flood dykes and building of the drainage canals. Gabčíkovo hydropower plant operated on the Danube caused the last significant change of flow conditions. Currently regulated discharges are released into Čiliž brook that is interrupted by drainage canals creating parts with mostly stagnant or even no water. Nevertheless, the Čiliž brook still retains its original channel pattern. Flow changes induced drying of the wider area with negative impact on ecological status of the Čiliž brook, riparian zone and adjacent wetlands, which belong to NATURA 2000 areas. As a consequence the natural habitat of root vole is considerably endangered.

... before restoration



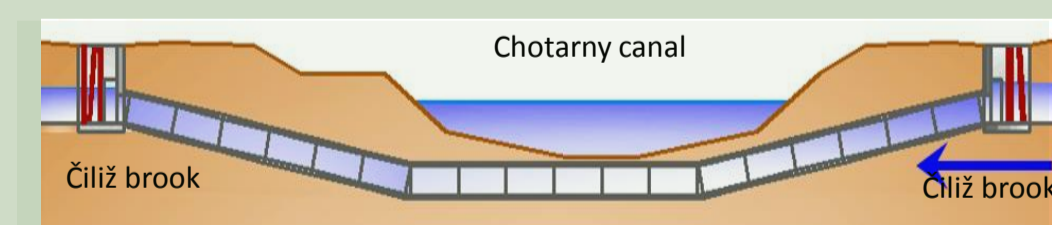
Restoration measures focused on improvement of altered water regime in Čiliž brook, riparian zone and adjacent wetlands are proposed and implemented to recreate appropriate habitat for root vole and other aquatic fauna and flora. As the river system is already highly modified, combination of structural and non structural restoration measures are required and proposed:

- Increasing of low water discharge – flow conditions optimized within the system of drainage canals (Čiliž brook, drainage canals, wetlands)
- Reintroducing of running water - construction of inverted siphons in two localities of interrupted longitudinal continuity; removal of fill in the channel – restoration of the original river channel; removal of the channel blockages and cleaning;
- Improvement of water regime by (re)construction of small sluice gates on canals that enable to get more water in the riparian zone and adjacent wetlands and also allow some water level variation

Measures implementation (until 2014) enabled to restore running water in the Čiliž brook in the length of 22 km (58%) and to improve water regime in 550 ha of wetlands.



Physical model (hydraulic laboratory at WRI) – crossing of the Čiliž brook and canal – inverted siphon design & flow regime optimization



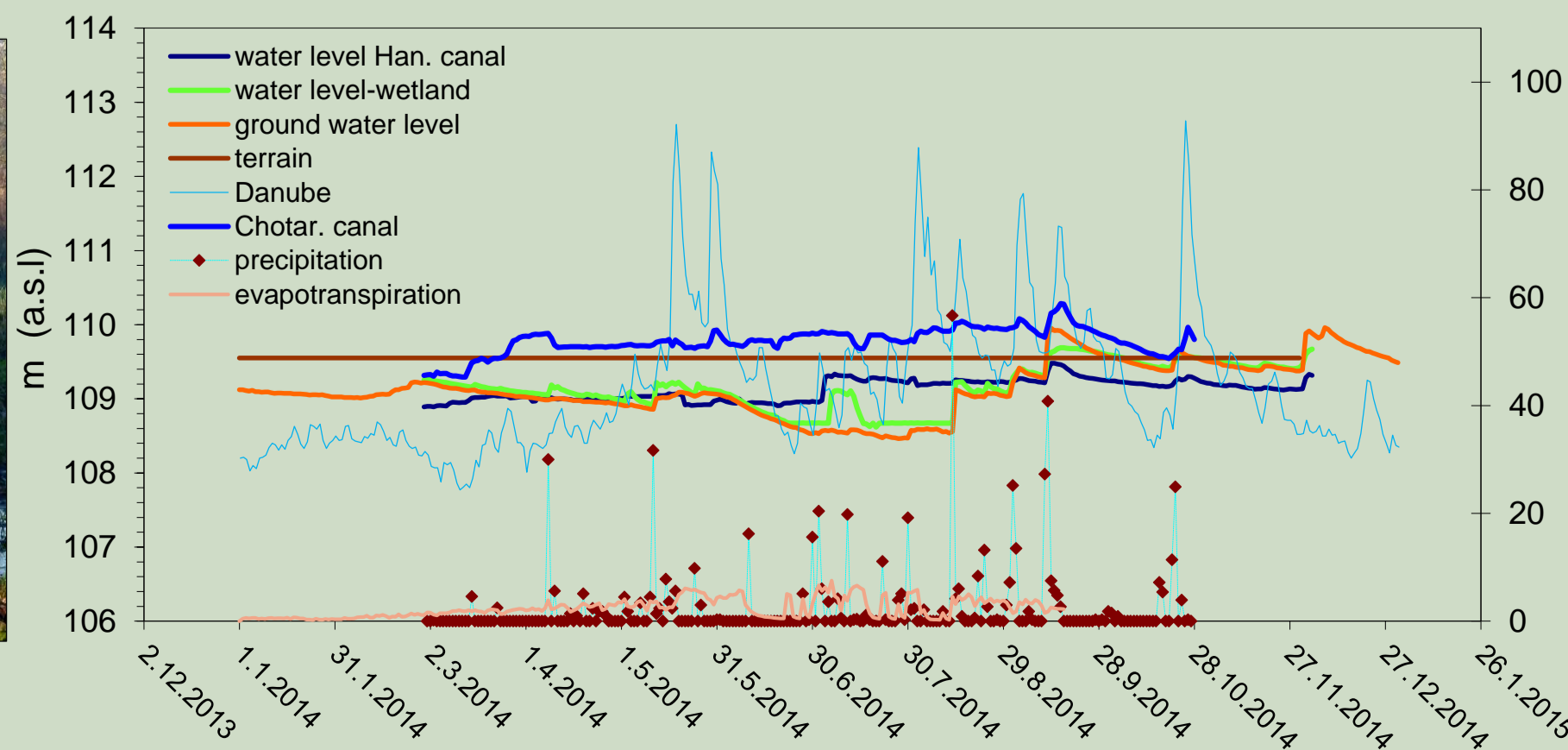
... after restoration



HYDROBIOLOGICAL & MORPHOLOGICAL MONITORING

It has been performed to prove effectiveness of restoration measures and allow some corrections if necessary. Preliminary results indicate improvement of water regime in some localities on Čiliž brook and within some adjacent wetlands where restoration measures are implemented. Created habitats are linked to the positive records of root vole.

Ongoing hydrological monitoring of wetland – locality Čiližská Radvaň



Positive records of root vole 2010-2012 (Ziak, D.)

