

RIPARIAN WETLAND MONITORING ALONG THE RIVER TISZA: AMPHIBIANS AND WATER CHEMISTRY

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Although floodplains are extremely important in the conservation of biological diversity, mainly as nursery, nesting and feeding areas, migration corridors, they have received less attention than other wetland types so far. Amphibians turned out to be particularly suitable indicators of the ecological functioning of riparian migration linkages. Following the major cyanide spill occurred in Baia Mare, Romania, in January 2000 producing peak amount of cyanide (32 mg/l) and heavy metals, mainly lead, copper and zinc, the monitoring of floodplain sites started in Hungary.

Amphibians were selected to primarily monitor oxbow lakes, where they have the most species-rich communities. Similarly to other floodplains, where disconnected and temporary waters have not received much attention, either, despite their significant contribution to biological diversity, nature conservation-related information is still scarce on the twenty-five sampling sites along the 586 km Hungarian Tisza section, even if approximately half of them bear a high level of legal protection and several large-scale projects started since 2000.

Sampling sites include large, permanent water bodies as well as shallow, temporarily water-covered areas, which can get dry by mid-summer if there is no flood during the preceeding spring. Amphibian species diversity was not strongly correlated with the geographical position of the sampling sites (i.e. no upstream downstream trends were found), they rather depend on local conditions developed in the actual year. Amphibian deformities were detected, occasionally in higher ratio than the background values, but they were rare. Decline was recorded, e.g. at *Rana arvalis*, a characteristic species in the investigated Tisza floodplain but further monitoring is necessary to decide if it a temporary fluctuation or a long-term change.

The water chemical characterisation of the upper 13 sampling sites revealed important differences e.g. between the oxigen saturation level and chemical oxigen demand of the sampling sites. The comparison of these results with amphibian species diversity and abundance, however, also emphasize those sites, which develop unfavourable water chemical conditions for short times during dry periods, mid-term they can maintain their importance as valuable amphibian habitats, and the management of riparian systems should maintain a high diversity of wetland areas.