

Additional information

General ecological features:

M: Ipoly river is the basis of the proposed Ramsar site because of its role of sustaining this wetland habitat. This part of Ipoly is a small, slightly regulated river section, which still possesses the quality of a freely meandering river. Here the regular floodplain process is still at work. On the riverbank the dominant plant communities are willow gallery forest (*Salicetum albae-fragilis*) riparian bush willows (*Salicetum purpureae*) and pioneer sandbank communities. Characteristic species: *Salix alba*, *Salix purpurea*, *Salix fragilis*, *Rorippa amphibia*.

Tp: There are six main marsh areas (namely: Honti marsh, part of Alsó-rét, Zabai-rét, Papárki-dűlő, Nagy-tó and Vörös-harasz) that are water-logged most of the growing season. There are six oxbow lakes in the region more or less with permanent water. Dominant plant communities here are reedbed communities (e.g. *Scirpo-Phragmitetum*, *Glycerietum maximae*, etc.) and floating or submerged reed-grass communities (e.g. *Lemnetum minoris*, etc.) Characteristic species: *Typha latifolia*, *Phragmites communis*, *Glyceria maxima*, *Lemna minor*, *Lemna triscula*

Ts: Chain of seasonally flooded meadows alongside Ipoly is a basic element in forming this wetland (the larger ones are Alsó-rét, Ortásrét and Pakoca.). They are partly grazed and partly mowed. Sedge marshes occur at the outskirts of marsh areas. They are partly grazed. Dominant plant communities here are wet alluvial meadow (*Alupecuretum pratensis*) and tall-sedge communities (e.g. *Caricetum acutiformis-ripariae*, *Caricetum gracilis*, etc.) Characteristic species: *Alopecurus pratensis*, *Carex gracilis*, *Carex acutiformis*, *Poa pratensis*.

Xf: There are scattered, smaller patches of seasonally flooded forests throughout the area. This type of vegetation was more widely spread in the past and the remnants of them are now lone willow trees on wet meadows. Dominant plant community here is willow gallery forest (*Salicetum albae-fragilis*). Characteristic species: *Salix alba*, *Salix fragilis*.

Xp: Alder and willow bogs occur in permanently water-logged depressions. The largest forested bog is placed near the little settlement of Ipolyszög at the eastern border of the proposed site. Endangered and protected species are most abundant in this type of wetland here. So far these areas (there are four of them) are not used heavily for commercial purpose. Dominant plant communities are alder bog (*Dryopteridi-Alnetum*) and willow bog (*Calamagrostio-Salicetum cinereae*). Characteristic species: *Alnus glutinosa*, *Salix cinerea*, *Carex elata*.

Two mountains (Börzsöny and Cserhát) lay with still existing native vegetation at the south border of the proposed site. Native plant communities here are English-Turkey oak forest (*Quercetum petraea-cerris*), Hornbeam-oak forest (*Quercus petraea – Carpinetum*), and different types of beech forest (*Melitti – Fagetum*, *Aconito – Fagetum*). Other parts of the adjacent area are under heavy human influences (e.g. development areas, agricultural fields, settlements, etc.) besides the Slovak Ramsar Site of Poiplye. Non-native vegetation forms present in the area are plantations (Poplar, Robinia), corn and wheat fields, weed communities (alongside roads, in dried out marsh areas, at illegal sand pits and abandoned

gravel pits, on parts of overgrazed meadows) and semi-natural vegetation degraded by invasive plant species (native and not native alike).

Introduced species are *Acer negundo* (i), *Aster spp.* (i), *Solidago spp.*(i), *Ailanthus altissima* (i) *Robinia pseudo-acacia* (i), *Asclepias syriaca* (i), *Echinocystis lobatus* (i), *Reynoutria japonica* (i), *Helianthus spp.* varieties of *Populus sp.*, and *Ambrosia elatior* (i) (i” means invasive).

Physical features of the site:

Geology:

The valley of Ipoly is an alluvial plain. Its formation had started in Pleistocene and gained its present-day form during Holocene. The uppermost layers of this alluvial plain consist of clay, silt and fine or large sand. The bed of this plain is formed from various tertiary sediments (e.g. volcanic ash, limestone and gravel which are sediments of tertiary seas, etc.).

Geomorphology:

The Ipoly floodplain is a long, flat and not so wide valley with few depressions. In these depressions there are oxbow lakes as well as shrub and alder bogs. There are small sand hills shaped by erosion and deflation in the eastern part of the proposed site. Slope inclination is rather small in the valley. In early spring there are typical long-lasting floods that are the main source of water, especially for depressions.

Origins:

Natural and artificial effects are responsible together for the present day form of the landscape. Regulation of the river (since 1975) has caused most of the damage in the wetland habitats. The regulation works have stopped by now in both countries.

Hydrology:

The whole catchment area of the Ipoly river covers 5108 km² out of which 1424 km² lies in Hungary. During the last centuries water balance was optimal for the bogs, marshes and wet meadows at both side of the river. After the regulation of Ipoly and its branches the depth of the riverbed and the speed of the water had increased. During the low discharges between July and October the water absorbency power is so high that it affects areas which are some kilometers far from the river. The groundwater level and the quantity of floods has decreased after regulation works done. Floods are during February and March every year as well as sometimes in early fall.

Water quality:

The water is very polluted in terms of microbiology and sand grains but clear in terms of chemicals.

	<i>at Hont</i>	<i>at Ipolyvece</i>	<i>Drégelypalán k-Zaba</i>	<i>Kifli lake</i>	<i>Ipolyszög alderbog</i>
PH	8,8	7,9	7,8	8,1	7,2
solved oxygen (mg/dm ³)	8,8	8	6,9	8,8	2
Conductivity (µS/cm)	601	652	445	681	544

hardness (mmol/dm ³)	-	5,4	3	5,4	2,2
-------------------------------------	---	-----	---	-----	-----

Climate:

The Valley of Ipoly belongs to the moderately warm and dry climate area. The annual solar radiation is 104-106 Kcal/cm². Average air temperature is 9,0-9,5 °C. Annual rainfall varies between 550-600 mm. Number of frosty days: 100-110. Number of heat days: 10-15.

Physical features of the catchment area:Hydrology:

In this respect, River Ipoly takes the leading role in the region. At the beginning and at the end of the stretch in question, water output and level are similar. The enlargement of the catchment area is hindered by the decrease of the valley and its storing capacity. A significant value of the small region is the ground water stored in the gravel of the riverbank, whose mass is 30 000 m³ per day.

Climate:

The catchment area is characterized by 1850-1900 sunny hours (750 hours during summer, 170 hours during winter). The average number of days with snow cover is 45 in the winter term.

Social and cultural values:

The Ipoly-region is part of an area of Slovak-Hungarian ethnic border where the two nations have been living together for centuries. Therefore the area has a unique ethnographical and cultural character. A prehistoric settlement, Csadó-tanya from the early historical time of the region was found near Drégelypalánk. Economical basis of the local population was provided by floodplain agriculture and many different ways of traditional fishing in the past. The remnants of that still can be found and may serve as a good possibility or opportunity for extensive, sustainable land use. The wine-producing capacity and traditions of the area is represented by many wine-cellars carved in the neighboring hills alongside the river.

Börzsöny mountains laying south from Ipoly-valley are a popular tourist site. Together with the Pilis mountains and the Danube-bend it serves as the main recreational area of the Budapest-region. The Ipoly-valley supplements this function as a potential ecotourism area. (This last one is still not well exploited.)

Current land (including water) use:

a) Within the Ramsar Site

On much of the area there is (or planned to be) extensive cattle-breeding. Some meadows are utilized only by pasturage, others by hay-making or both. There are certain strictly protected territories where the presence of endangered associations do not allow us to make use of the

land (as in approx. one tenth of the meadows). In 1998 the hay-making fields have been cultivated by paid mowers or by our staff.

Through the Angler Association the population of the neighboring settlements is allowed to go fishing in Ipoly river and in its backwaters. With a suitable regulation this is not a peril to the wetland habitats. The forestry plans have already adopted nature conservation norms, so new plantations would use only native species. The drinking water supply of many neighboring settlements is provided by wells situated in the area. This fact gives a special emphasis on the protection of this wetland territory. Land use through hunting is fully subordinated to the measurements and needs of nature conservation.

Population of neighboring settlements:

Balassagyarmat (+Ipolyszög)	18072
Drégelypalánk	1542
Hont	634
Ipolyvece	858
Dejtár	1473
Patak	1016

b) In the surroundings/catchment:

Most of the surrounding area is agricultural land (ploughlands, woods, pasture) and inner-city territory. There are a few factors that may endanger the wetlands, like manure or sewage handling.

The degree of drinking water exploitation is not so high as to change the level of the groundwater system dramatically. The quality of the soil of the surrounding area is weak but overdosing with artificial fertilizer is not a potential danger (mainly because of its high expenses).

Conservation measures taken:

Its official management plan has not yet been compiled. The hunting, pasturage, mowing and the development of the forestry management plans in the Ramsar Site is done with nature conservation priority. Cattle breeding means a limited number of employment for local people.

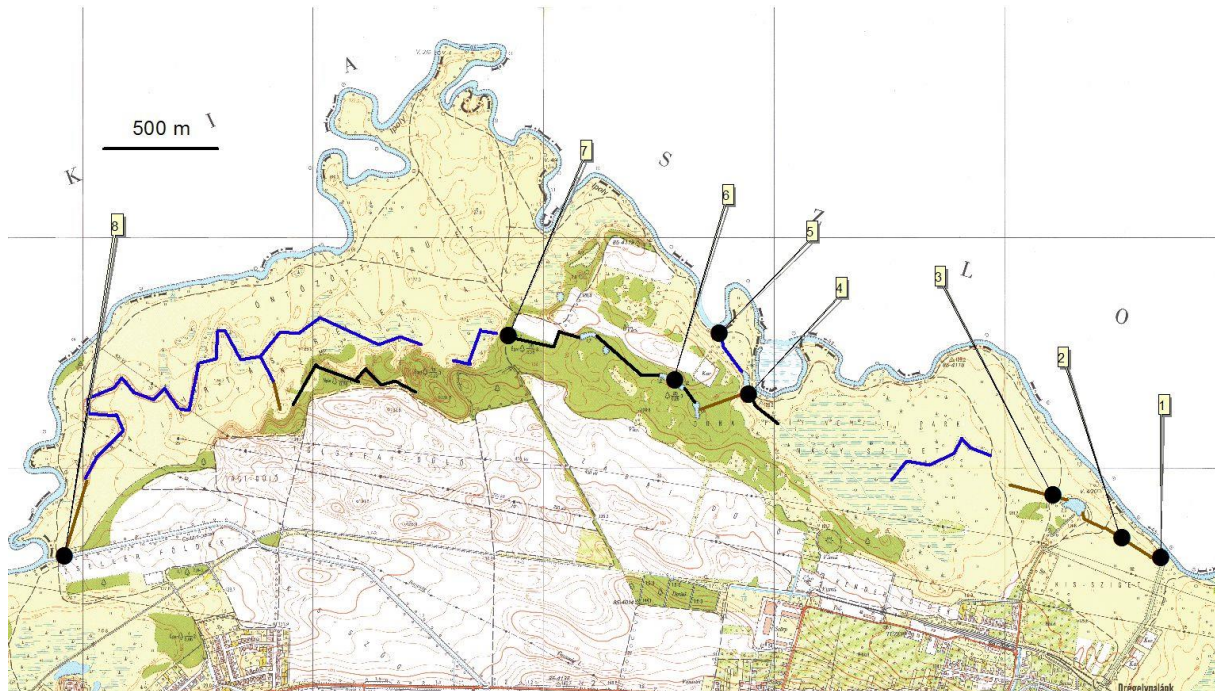
Ipoly river floodplain habitat restoration in the Danube Ipoly National Park

About 2200 hectares of Ipoly floodplain are owned by the national park directorate between Drégelypalánk and Hont villages. Before it was an agricultural area. All the swamps, grasslands, alder forest drains into the Ipoly river. Additionally decrease in flood durations appeared in Ipoly river. As a consequence the area was dry for long time during the year. Floristical and faunistical studies have been done focused on Natura 2000 habitats and species financed by INTERREG (HUSKUA/05/01/252). According to the results habitat restoration works were done in 2012 financed by "KEOP-3.1.2./2f/09/2010-0003". Restoration activities can be seen in Picture 1. Main activities: Blocking drain-channels, and water-transfer from regulated Héviz-stream to the floodplain area. Also some amelioration

work has been done in order to drive the water into frequent areas, as alder-forest, grassland, swamps, and blocked side arms.

Expected results:

1. Increasing flood-interval.
2. Provide water supply for habitats during dry period.



Picture 1: The habitat restoration activities in the Ipoly valley between Drégelypalánk and Hont.

1. Lock on the Héviz-stream, in order to lift the water level.
 - 2, 3, 6, 7. Different facilities (small bridge, culverts) to prove pathways for area managers.
 - 4, 5, 8. Locks on drainage channels.
- Black, blue and red lines show amelioration work to drive the water into frequent areas.

First year monitoring results showed that habitat restoration was successful. In extremely dry year (2012) European weather loach (*Misgurnus fossilis*) in alder forest, and Spined loach (*Cobitis elongatoides*) in amelioration channels could be found in a good number. Also large number of Grey Heron (*Ardea cinerea*), Great Egret (*Egretta alba*) and *Anatidea* species used the flooded grassland. One pair of Whooper Swan (*Cygnus cygnus*) appeared and breeds in the area every year.

After habitat restoration water regulation based on the nature protection needs. Grazing and mowing based on the nature protection needs.

Current recreation and tourism:

At the present time the area is not utilized by tourism. A cycling road is planned through the area (from Hont to Balassagyarmat). The route takes on the dikes sometimes going round the protected spots. With the cycling road and the establishment of bird observation places we are trying to start the development of a sustainable ecotourism.