

**SMALL SCALE AND LARGE SCALE MONITORING OF VEGETATION
CHANGES IN A RESTORED WETLAND**

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Hanság was the largest fen area in the Carpathian basin. Drastic drying-out of the fen was done in the early 20th century. In spite of drainage and a lot of human disturbance, Hanság still retains a relatively large part of its natural values. The conservation manager of the area, the Fertő-Hanság National Park decided to increase wetland areas, that is, rewetting of the secondary meadows developed after drainage of the fen. Technical possibilities, safety, ownership and economical criteria were considered in priority when choosing the 400 ha area to be flooded. Dikes were built around three separated wetland pools (the restoration units), and water was transported by gravitation through sluices from the river Rábca and a channel. The water-level is intended to keep constant at 113 m above Baltic sea level, in this case the water depth is between 0-100 cm in the inundated area, depending on micro relief.

(1) Small scale monitoring: 5x5 m phytosociological relevés were made along 21 permanent transects, 100 m long each, every year. The end of the transects were marked by wooden sticks, and positioned using GPS. The percent cover of plant species were recorded in 20 pieces of 5x5 m quadrates along each transect.

(2) Large scale monitoring: vegetation map were made using good quality and fine resolution aerial ortophotos in 2003, and GIS database were built (ESRI ArcView 3.2). The aerial photograph was processed by scanning with 18µm resolution and 16 bit color depth. Ortorectification was made with field reference points. The potential patch contours were outlined in the computer. The vegetation category, main species and their cover, and total vegetation cover was recorded for each patch in the field. Data were processed by raster analysis (One pixel is 1x1 m), and several grid statistics were made.

In the third year of inundation more than the half of the restoration area is covered by open water or aquatic vegetation. The area of the large sedges and Typha stands are similar, 14% and 17% respectively. The Phragmites australis and Glyceria maxima dominated area is only 4 percent. The distribution of these vegetation types is rather diversified. There are large patches, but a mosaic like fine pattern occurs as well.

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