Research report

Botanical monitoring (Action D3) in the framework of „Conservation of dry grasslands in Central Hungary" Life+ Nature (LIFE NAT/HU/001028)

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We surveyed the vegetation of the sites restored between the autumn of 2014 and early spring of 2016, to evaluate short-term restoration success. We conducted the monitoring of restoration actions in the following Natura 2000 sites:

'Alsó-Tápió és patakvölgyek' Natura 2000 site (Tápiósági földvár),
'Gödöllői-dombság peremhegyei' Natura 2000 site (Fóti Somlyó),
'Érd-tétényi plató' Natura 2000 site (Tétényi-fennsík).

Botanical surveys were conducted in late May and early June 2016. Detailed results of the surveys can be found in Appendices 1-3.

- In 'Alsó-Tápió és patakvölgyek' Natura 2000 site we monitored the second-year vegetation composition of a former arable field restored by hay transfer in the autumn of 2014. We found a fast and promising grassland recovery. We found that 41 target species established in the second year. The mean cover of target species was as high as 40%. Even one protected species, *Centaurea sadleriana* could establish in the restored site. The cover of the target grasses increased from 2015 to 2016, especially in case of *Arrhenatherum elatius.* The cover of weeds (especially *Papaver rhoeas* and *Torilis arvensis*) remained high (ca. 50%), but they were mostly annual species which can be suppressed easily. The cover of invasive species was low, but it is crucial to regularly control the encroachment of *Asclepias syriaca* even in the early phase.
- In 'Gödöllői-dombság peremhegyei' Natura 2000 site we recorded the vegetation composition in the plots designated in 2014. (i) We sampled the vegetation of a mesophilous old-field invaded by *Solidago gigantea.* In spite of the applied management actions, the cover of *Solidago gigantea* was still high in 2016 and shrub encroachment was also present. However, several target species of sandy grasslands
- were present in the old-field. In forthcoming years, higher management intensity, such as higher grazing intensity would be important. (ii) We sampled the vegetation of an abandoned road and roadside with spontaneous grassland recovery. We found that the abandonment of the road was favourable for spontaneous grassland recovery, however the complete recovery of natural grasslands requires more time.

- In ‘Érd-tétényi plató’ Natura 2000 site we sampled the vegetation of a road abandoned in 2014 and also the early vegetation composition of sites where shrubs were cut in the early spring of 2016. (i) We found that the abandonment of the road was favourable for spontaneous grassland recovery, and the vegetation was dominated by target species. However the complete recovery of natural grasslands requires more time. (ii) In four sites, shrubs were removed by hand, and in one site by heavy machinery. We found that both methods were effective in removing the biomass of shrubs and the current conditions are favourable for the target grassland species. For the long-term restoration success, regular control of re-sprouting shrubs will be crucial.