Research report

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

Salvia Environmental and Nature Conservation Association
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We surveyed the vegetation of the sites restored in 2014/2015 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).

To survey the potential propagule sources of target species, we sampled the surrounding vegetation of the shrub-encroached sites where shrub removal is planned in the winter of 2015/2016. We surveyed the surroundings of the sample sites to be restored in the following Natura 2000 sites:

'Alsó-Tápió és patakvölgyek' Natura 2000 site (Tápiósági földvár),
'Epöli szarmata vonulat' Natura 2000 site (Gyermely-Máriahalom),
'Érd-tétényi plató' Natura 2000 site (Tétényi-fennsík).

Botanical surveys were conducted in late May and early June 2015. Detailed results of the surveys can be found in Appendices 1-7.

- In 'Gödöllői-dombság peremhegyei' Natura 2000 site we recorded the vegetation composition in the plots designated in 2014. We sampled the old-field invaded by *Solidago gigantea*. Several target species of sandy grasslands were present in the old-field, however, the cover of *Solidago gigantea* was still high and there was also a moderate shrub encroachment. Thus, in forthcoming years, mowing multiple times per

year is necessary. We sampled the abandoned road and roadside with spontaneous grassland recovery. We found that the abandonment of traffic led to decreased disturbance which likely accelerated the spontaneous succession, however the spontaneous recovery of natural grasslands requires more time.

- In 'Alsó-Tápió és patakvölgyek' Natura 2000 site we sampled the surrounding vegetation in a radius of 50- and 100-m around a secondary shrubland, which is to be cut in the winter of 2015/2016. We also monitored the first-year vegetation composition of a former arable field restored by hay transfer in the autumn of 2014. We found that many target species established in the first year, but with low cover scores. The cover of annual weeds (especially *Papaver rhoeas*) was high, similarly to other restoration projects. The cover of the target grass *Festuca rupicola* was low, thus in 2016 further restoration measures will be necessary.
- In 'Epöli szarmata vonulat' Natura 2000 site we sampled the surrounding vegetation of the shrub-encroached sample sites where shrub removal is planned in the winter of 2015/2016. We found that most of the sample sites were surrounded by target loess grasslands which harbour all typical specialist species and were extremely diverse, thus they have the potential to provide proper propagule sources for the immigration of target species to the shrub-cleared sites. One site is surrounded only by roads, arable fields and mesophilous meadows, thus spontaneous immigration of target species will likely be hampered there.
- In 'Érd-tétényi plató' Natura 2000 site we sampled the surrounding vegetation of the shrub-encroached sample sites where shrub removal is planned in the winter of 2015/2016. We found that the species pool of sub-Pannonic steppes is present in the surroundings of each sample site, which suggests that target species can easily colonize the restored sites.