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RECENT NATURE CONSERVATION MANAGEMENT IN KISMOHOS BOG, KELEMÉR, NORTH HUNGARY

Természetvédelmi kezelés a Kismohoson

Erzsébet Szurdoki[1,2]* & Beáta Papp[3]

*[1]ELTE Faculty of Primary and Pre-School Education, 1126 Budapest Kiss János altbn. u. 40; [2]HUN-REN Centre for Ecological Research, Institute of Ecology and Botany, 2163 Vácrátót, Alkotmány u. 2-4; [3]HNM Public Collection Centre, HNHM, Baross u. 13, 1088 Budapest, Hungary; *E-mail: szurdoki.erzsebet@tok.elte.hu*

Preserving peat moss bogs, which are rare and protected in Hungary, is an important task for nature conservation. Over the course of the Kismohos peat bog's 15,000-year history, significant changes occurred several times in the key species and plant communities. In the second half of the 20th century, the peat moss dominated habitats of the bog degraded, and active intervention was required for their restoration. The currently ongoing succession processes again require active intervention. The eastern part the bog has increasingly become covered by trees, threatening the extension of the bryophyte layer. The Aggtelek National Park Directorate developed a nature conservation management plan. In 2020, the canopy cover was reduced to 30–40%, selected trees in a 15–20 meter-wide zone were cut. To monitor the impact of the treatment changes were surveyed annually along three permanent transects, in contiguous 0.5 × 0.5 m quadrats. The vascular plant and bryophyte cover were recorded, and the presence absence data of bryophyte species in each quadrat were documented. The first survey was carried out before the treatment to record the initial state. The cover of vascular plants increased across all three transects after the treatment. In the last two years, a slight decreasing trend has been observed except the transect 3, where the cover is still much higher than before cutting. The average moss cover shows an increasing trend in transects 1 and 2 and a decreasing trend in transect 3. Mire bryophyte species dominated the study area throughout the monitoring. The most common peat moss was *Sphagnum recurvum agg*., which forms several contiguous carpets. *Sphagnum divinum* is also present in large hummocks and shows an increasing trend. *Polytrichum commune* is also significant member of the bryophyte assemblage, forming large carpets, mainly along transects 1 and 2. The frequency of this species is also increasing. We observed an increase in the frequency of some species associated with decaying matter in the years following cutting, but their frequency is no longer increasing.
The main conclusion are the following: (1) the management effected larger area than the managed area itself, (2) fine-scale spatial differences in environmental circumstances were detected within the investigated area, (3) the same management can cause different changes in fine-scale, (4) difficult to predict the effect of management in fine scale. Therefore step by step management is suggested.