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Rehabilitation and renovation of Cena mire in Latvia.

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Cena Mire Nature Reserve comprises 6 habitats in the EC Habitats Directive from which 2 are priority habitats - active raised bogs (7110*), bog woodland (91D0*) as well as degraded raised bogs still capable of natural regeneration (7120), transition mires and quaking bogs (7140) and depressions on peat substrates of the *Rhynchosporion* (7150), natural dystrophic lakes and ponds (3160).

Protection of Cena Mire is important because it is a unique raised bog because it is one of the few raised bogs of Latvia that possess the features of the coastal raised bog type as includes *Trichophorum cespitosum,* and also the features of the eastern bog type as is the habitat for *Chamadaphne calyculata*. Cena Mire is the habitat for 4 protected vascular plant species of Latvia - *Betula nana, Dactylorhiza maculata, Trichophorum cespitosum* and *Eriophorum gracile* and 1 bryophyte species- *Calypogeia sphagnicola.*

Raised bogs have been influenced by drainage that was carried out all over Latvia between 1930s and 1980s and included also the project sites - Cena Mire.

In Cena Mire the total length of drainage system reaches 24,5 km. For the peat extraction purpose in Cena Mire a series of regularly spaced deep drains were established. The smaller ditches are connected to the larger drainage channels on the bog margins. In places, where the peat extraction has terminated, vast bare peat fields have been left.

Peat extraction in the unprotected part of Cena Mire has started in 1930s. Previously, Cena Mire has been the second largest raised bog in Latvia, covering the area of 8983 ha. Presently, only 30% have remained in a natural status. No rehabilitation of the previous peat extraction fields was carried out. Peat fields pose a continuous threat due to the fires that have occurred there. The last fire was observed in 2001 affecting about 400 ha and included also the active raised bog habitats of the protected part of Cena Mire.

Due to drainage, the damaged parts of the raised bogs greatly differ from the intact areas. Drainage results in drying, compaction, oxidation, wastage and a changed water-table response pattern to rain events. In effect, an uncharacteristically highly fluctuating water-level pattern is produced that is unsuitable for many active raised bog plants, especially *Sphagnum* species. The age of *Pinus sylvestris* in the nearby area of the ditches correlates to time when the drainage was carried. Because of the drainage the bog surface in the surrounding area of the drains has become dry. Most degraded raised bog habitats are near the ditches but the drainage effect is still observed towards the central part of the raised bogs.

Cena Mire Nature Reserve borders with the present peat extraction fields and areas where peat extraction has been terminated. Peat extraction is carried out by Joint-Stock Company “Olaines kudra”. It will favour the communication and understanding between peat industry representatives and nature conservation institutions. Involvement of peat company in the restoration of natural raised bog hydrology is an important step towards raising awareness of the peat industry representatives about the need for the restoration activities in the site.