



The restoration of cutaway peatlands in North America

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In North America, very little research has been carried out on the restoration of fens. Increasingly, peat industries are faced with the task of restoring cutaway peatlands where the environmental conditions closely resemble a fen. The goal of this research project was to identify important peat-accumulating vegetation groups and to explore techniques for the restoration of cutaway peatlands of North America. A litterbag experiment showed that bryophytes, especially *Sphagna*, accumulate more peat than vascular plant litter. Secondly, the succession on cutaway peatlands was examined to determine which plants frequently colonize abandoned sites. After surveying 28 abandoned, harvested fens across Canada and in Minnesota, USA, we found the spontaneous vegetation was not similar to the vegetation found on undisturbed fens from the same areas. Specifically, *Sphagnum* and *Carex* species, abundant on undisturbed fens were not found on abandoned, vacuum-harvested fens. Finally, a field experiment was carried out to test two reintroduction techniques for *Sphagnum* and *Carex* species. The application of donor diaspores, commonly used for *Sphagnum*-dominated peatland restoration was effective for reintroducing both *Carex* and *Sphagnum* species. The findings of this research indicate that bryophytes are important for the peat-accumulating function in fens and suggest strategies for their reintroduction.