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**34. © Impact of seedbed and water level on the establishment of plant species associated with bog pools.** Landry, T., Rochefort, L., and Poulin, M. Native Plants Journal 13(3):205-215. 2012.

# Impact of seedbed and water level on the establishment of plant species associated with bog pools

IMPLICATIONS FOR RESTORATION

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## ABSTRACT

Our study found that a water level close to the surface and a seedbed composed of bare peat or a *Sphagnum* carpet favored the germination of vascular species associated with pools in peatlands. A greenhouse experiment was conducted to study the impact of seedbed and water level on the germination and growth of 7 plant species associated with pools: *Carex limosa* L., *C. magellanica* Lam. ssp. *irrigua* (Wahlenb.) Hultén, *C. oligosperma* Michx., *C. pauciflora* Lightf., and *Rhynchospora alba* (L.) Vahl from the Cyperaceae family as well as *Drosera intermedia* Hayne (Droseraceae) and *Scheuchzeria palustris* L. (Scheuchzeriaceae). The 3 seedbeds tested were 1) bare peat; 2) a carpet of *Sphagnum cuspidatum* Ehrh. ex Hoffm. and *S. fallax* (Klinggr.) Klinggr. (Sphagnaceae); and 3) a carpet of *Cladopodiella fluitans* (Nees) H. Buch (Cephaloziaceae), common bryophytes along pool edges. Seedbeds were combined with 2 water levels (0 and 10 cm below the soil surface) in a complete factorial block design. Germination periods were generally longer when seeds were submitted to drier conditions and placed on *C. fluitans* carpets. Conditions favoring biomass production were more variable among species. These results will facilitate the identification of the best ecological conditions for successful establishment of pool edge species in the context of restoration projects, thereby increasing biodiversity and ecological value of restored peatlands.

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## KEY WORDS

seed germination, pool margin, *Carex*, peat stability, seed viability, bryophyte, greenhouse experiment

## NOMENCLATURE

Plants: USDA NRCS (2012)  
Bryophytes: Faubert (2007)

## CONVERSIONS

1 mm = 0.04 in  
1 cm = 0.4 in  
(°C x 1.8) + 32 = °F