DANIEL CAMPBELL, PhD

Birchbark Environmental Research

Email: boreal.daniel.campbell@gmail.com

Languages: Fluent in English, French and Spanish.
Excellent writing skills in English and French. Fair in Spanish.

Education:

2002	PhD, Phytologie, Université Laval, Québec
1995	MSc, Biology, University of Waterloo, Waterloo
1987	BSc, Ecology, University of Guelph, Guelph

Professional Certification:

Environmental Professional (Eco-Canada)

Work experience:

2018-	President, Birchbark Environmental Research Ltd., Sudbury, ON
2018-2019	Research professional (part time), Département des sols et de génie alimentaire, Université Laval, Québec, QC
2016-	Adjunct professor, School of the Environment and Vale Living with Lakes Centre, Laurentian University, Sudbury, ON
2013-2016	Assistant professor, School of the Environment and Vale Living with Lakes Centre, Laurentian University, Sudbury, ON
2011-2013	Director, Environmental Monitoring and Rehabilitation, MIRARCO Mining Innovation, Sudbury, ON
2006-2011	Assistant professor, Biology Department, Laurentian University, Sudbury, ON
2005-2006	Instructor, Biology Department, Laurentian University, Sudbury, ON
2002-2004	Post-doctoral researcher, Biology Department, Southeastern Louisiana University, Hammond, Louisiana, USA
1995-1996	Self-employed environmental consultant, Waterloo, ON
1989-1992	Environmental consultant, Cumming Cockburn Ltd, Waterloo, ON

Project Management

2015-2017: NSERC: *The effects of simulated wastewater amendments in a subarctic ribbed fen on plant productivity and nutrient dynamics.* $33k.

2014-2016: De Beers Canada: *The development of rehabilitation protocols for the Hudson Bay Lowland after mining*. $248k.

2014-2015: Ontario Genomics Institute / Ambiotek. *Identification of rhizosphere microbiota for the phytoremediation of nickel-copper mine tailings.* $25k.

2012-2013. Vale and Xstrata Nickel. *Green Mines Green Energy*. $31k.

2008-2011: NSERC De Beers Canada and the Centre for Excellence in Mining Innovation (CEMI): *rehabilitation of plant communities in the Hudson's Bay Lowlands after mining*, $437k.

Research:

I have research experience in environmental science and ecology from the subtropics to the subarctic, especially addressing applied problems. My areas of expertise lie in environmental science, restoring damaged ecosystems, wetland sciences, plant ecology, soil science, wind erosion, environmental monitoring, mine environments, quantitative methods and experimental design.

Teaching:

I have taught advanced courses in environmental science, environmental monitoring, environmental impact assessment, conservation science, plant sciences and the design and analysis of environmental research studies. I teach students to be the environmental practitioners, leaders and decision-makers of tomorrow. I engage them through real-life examples and participation, in the classroom and in the field.

Selected Publications:

Keddy P.A., CAMPBELL, D. 2020. The Twin Limit Marsh Model: a non-equilibrium approach to predicting marsh vegetation on shorelines and floodplains. *Wetlands* 40: 667-680.

Asemaninejad, A., Munford, K., Watmough, S., CAMPBELL, D., Glasauer, S., Basiliko, N., Mykytczuk, N. 2020. Structure of microbial communities in amended and unamended acid-generating mine wastes along gradients of soil amelioration and revegetation. *Applied Soil Ecology* 155.

CAMPBELL, D., 2020. Wetlands, in: Suring, L.H., Costello, M.J. (Eds.), Encyclopedia of the World's Biomes. Volume 4: Freshwater - Oasis of Life. Elsevier, pp. 99-113.

Lefebvre-Ruel, S., Jutras, S., CAMPBELL, D., Rochefort, L. 2019. Ecohydrological gradients and their restoration on the periphery of extracted peatlands. *Restoration Ecology* 27: 782-792.

Lavallee, A., CAMPBELL, D. 2019. Effects of simulated treated domestic wastewater on *Sphagnum* productivity, decomposition and nutrient dynamics in a subarctic ladder fen. *Wetlands* 39: 29-38.

Rantala-Sykes, B., CAMPBELL, D. 2019. Should I pick that? A scoring tool to prioritize and valuate native wild seed for restoration. *Restoration Ecology* 27: 9-14.

Rantala-Sykes, B., CAMPBELL, D. 2018. Can fertilizers increase the seed yield of two native herb species in the subarctic? Implications for wild seed collection. *Ecological Restoration* 36: 169-171.

Rantala-Sykes, B., CAMPBELL, D. 2017. Collecting seed from wild plants in northeastern Ontario. https://nativewildseed.wixsite.com/nativewildseed

CAMPBELL, D., Stewart, K., Spiers, G., Beckett, P. 2017. Growth and metal uptake of canola and sunflower along a thickness gradient of organic-rich covers over metal mine tailings. *Ecological Engineering* 109:133-139.

CAMPBELL, D., Keddy, P. A., Broussard, M., McFalls-Smith, T.B. 2016. Small changes in flooding have large consequences: experimental data from ten wetland plants. *Wetlands* 36: 457-466.

CAMPBELL, D., Polster, D., Rochefort, L., Powter, C. 2016. Reclamation, rehabilitation, restoration and remediation in Canada: a search for common ground. *Canadian Reclamation* 16(1): 22-27.

Santala, K., Monet, S., McCaffrey, T., CAMPBELL, D., Beckett, P., Ryser, P. 2016. Restoring plant biodiversity to smelter disturbed forests using understory turf transplants. *Restoration Ecology* 24: 346–353.

CAMPBELL, D., Corson, A. 2014. Can mulch and fertilizer alone rehabilitate surface-disturbed subarctic peatlands? *Ecological Restoration* 32:153-160

Corson, A., CAMPBELL, D. 2013. Testing protocols to restore disturbed *Sphagnum*-dominated peatlands in the Hudson Bay Lowland. *Wetlands* 33: 291-299

CAMPBELL, D., Bergeron, J. 2012. Natural revegetation of winter roads on peatlands in the Hudson Bay Lowland, Canada. *Arctic, Antarctic and Alpine Research.* 44:155-163.

McFalls, T. B., Keddy, P.A., CAMPBELL, D., Shaffer, G. 2010. Hurricanes, floods, levees, and nutria: Vegetation responses to interacting disturbance and fertility regimes with implications for coastal wetland restoration. *Journal of Coastal Research*. 26: 901-911.

Keddy, P. A., Fraser, L. H., Solomeshch, A. I., Junk, W. J., CAMPBELL, D. R., Arroyo, M. T. K., Alho, C.J. R. 2009. Wet and wonderful: The World's largest wetlands are conservation priorities. *BioScience* 59: 39-51.

Geho, E. M., CAMPBELL, D., Keddy, P. A. 2007. Quantifying ecological filters: the relative impact of herbivory, neighbours, and sediment on an oligohaline marsh. *Oikos* 116: 1006-1016.

Keddy, P. A., D. Campbell, T. McFalls, G. P. Shaffer, R. Moreau, C. Dranguet, and R. Heleniak. 2007. The wetlands of Lakes Pontchartrain and Maurepas: Past, present and future. *Environmental Reviews* 15:43-77.

CAMPBELL, D. 2005. The Congo River Basin. pp. 149-165 in *World's Largest Wetlands.* Keddy, P., Fraser, L. (eds.). Cambridge University Press, Cambridge.

CAMPBELL, D. R., Rochefort, L. 2003. Germination and seedling growth of bog plants in relation to the recolonization of milled peatlands. *Plant Ecology* 169: 71-84.

CAMPBELL, D. R., Rochefort, L., Lavoie, C. 2003. Determining the immigration potential of plants colonizing disturbed environments: the case of milled peatlands in Québec. *Journal of Applied Ecology* 40: 78-91

CAMPBELL, D. R., Lavoie, C., Rochefort, L. 2002. Surface stability and wind erosion in abandoned milled peatlands. *Canadian Journal of Soil Science* 82: 85-95.

Bunting, M. J., Duthie, H. C., CAMPBELL, D. R., Warner, B. G., Turner, L. J. 1997. A palaeoecological record of recent environmental change at Big Creek Marsh, Long Point, Lake Erie. *Journal of Great Lakes Research* 23:349-368.

CAMPBELL, D. R., Duthie, H. C., Warner, B. G. 1997. Post-glacial development of a kettle-hole peatland in southern Ontario. *Écoscience* 4:404-418.