

DANIEL CAMPBELL, PhD



Contact Info: 125 Patterson St. Sudbury, ON P3C 2J6
705-822-2564
boreal.daniel.campbell@gmail.com

Languages: Fluent in English, French and 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 / School of Natural Sciences, 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.

Expertise

Environmental science, wetland sciences, restoring damaged ecosystems, mine environments, boreal and subarctic ecosystems, plant ecology, soil science, wind erosion, teaching, environmental monitoring, quantitative methods and experimental design.

Examples of Project Management

2024-2025: Environment and Climate Change Canada. *Wetland Mitigation Options for Project Developments in Far Northern Ontario: An Annotated Bibliography.*
2022-2025: Canadian Sphagnum Peat Moss Association. *CanRePeat – Restoring Historically Extracted Peatlands in Canada.*

- 2022-2024: De Beers Canada and ERM. *Revegetation Assessments of the Victor Mine*.
- 2020-2023: Ontario Nature and ON MECP. *Testing Novel Approaches to Threat Mitigation and Population Enhancement of American Ginseng*.
- 2019-2021: De Beers Canada Victor Mine and ERM. *Revegetation Program and Closure Criteria*.
- 2015-2017: NSERC. *The Effects of Simulated Wastewater Amendments in a Subarctic Ribbed Fen on Plant Productivity and Nutrient Dynamics*.
- 2014-2016: De Beers Canada. *The Development of Rehabilitation Protocols for the Hudson Bay Lowland after Mining*.
- 2014-2015: Ontario Genomics Institute / Ambiotek. *Identification of Rhizosphere Microbiota for the Phytoremediation of Nickel-Copper Mine Tailings*.
- 2012-2013. Vale and Xstrata Nickel. *Green Mines Green Energy*.
- 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*.

Professional Associations

- 2000-2025 Society of Wetland Scientists
- 2002-2025 Ecological Society of America
- 2006-2025 Canadian Land Reclamation Association
- 2006-2025 Society for Ecological Restoration
- 2018-2025 ECO Canada (Environmental Professional certification)

Recent Volunteer Activities

- 2023-2025 Director, Canadian Land Reclamation Association Ontario Chapter.
- 2022-2025 Director and President, Junction Creek Stewardship Committee, Sudbury, ON.
- 2020-2025 Mentor, HumMentor program, Society of Wetland Scientists. This program aims to mentor student wetland scientists from Latin America and the Caribbean.

Peer-reviewed Publications

- CAMPBELL, D. 2023. Phytoremediation using tropical wetlands: Are temperate treatment wetlands sound models? Lobato de Magalhães, T, Otte, M (eds.), *Wetlands for Phytoremediation in the Tropics*. Springer, Dordrecht. pp. 15-30.
https://doi.org/10.1007/978-3-031-23665-5_2
- Frenette-Vallières, C., Caron, J., CAMPBELL, D. 2023. Saltation and aerosol suspension over cultivated histosols in southern Quebec. *Acta Horticulturae* 1389, 293-300.
<https://doi.org/10.17660/ActaHortic.2024.1389.32>
- CAMPBELL, D. Keddy, P. 2022. The roles of competition and facilitation in producing zonation along an experimental flooding gradient: a tale of two tails with ten freshwater marsh plants. *Wetlands*: 42. <https://doi.org/10.1007/s13157-021-01524-4>
- CAMPBELL, D.; Keddy, P. (2020). Campbell and Keddy - data.xlsx. *Figshare*. Dataset.
<https://doi.org/10.6084/m9.figshare.12937031.v1>

- 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. <https://doi.org/10.1007/s13157-019-01229-9>
- 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. <https://doi.org/10.1016/j.apsoil.2020.103645>
- 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. <https://doi.org/10.1016/B978-0-12-409548-9.11810-X>
- 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. <https://doi.org/10.1111/rec.12914>
- 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. <https://doi.org/10.1007/s13157-018-1058-x>
- Rantala-Sykes, B., CAMPBELL, D. 2019. Should I pick that? A scoring tool to prioritize and value native wild seed for restoration. *Restoration Ecology* 27: 9-14. <https://doi.org/10.1111/rec.12827>
- 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. <https://doi.org/10.3368/er.36.3.169>
- Lavallee, A., CAMPBELL, D. 2017. Replication data for: Effects of simulated wastewater nutrient amendments on *Sphagnum* productivity and decomposition within a subarctic ladder fen. *Borealis*. <https://doi.org/10.5683/SP/AOEXWN>
- 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. <https://doi.org/10.1016/j.ecoleng.2017.08.019>
- 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. <https://doi.org/10.1007/s13157-016-0754-7>
- 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. <https://doi.org/10.1111/rec.12316>
- CAMPBELL, D., Corson, A. 2014. Can mulch and fertilizer alone rehabilitate surface-disturbed subarctic peatlands? *Ecological Restoration* 32:153-160. <https://www.jstor.org/stable/43441640>
- Corson, A., CAMPBELL, D. 2013. Testing protocols to restore disturbed *Sphagnum*-dominated peatlands in the Hudson Bay Lowland. *Wetlands* 33: 291-299. <https://link.springer.com/article/10.1007/s13157-013-0383-3>
- 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.

- <https://doi.org/10.1657/1938-4246-44.2.155>
- 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. <https://doi.org/10.2112/JCOASTRES-D-09-00037.1>
- 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. <https://doi.org/10.1525/bio.2009.59.1.8>
- Roth, A.-M., CAMPBELL, D., Keddy, P., Dozier, H. & Montz, G. 2008. Are species-rich pine savannas strongly or weakly structured by competition? A two year removal experiment in the subtropics and its implications. *Ecoscience*. 15: 94-100. [https://doi.org/10.2980/1195-6860\(2008\)15\[94:HIICIA\]2.0.CO;2](https://doi.org/10.2980/1195-6860(2008)15[94:HIICIA]2.0.CO;2)
- 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. <https://doi.org/10.1111/j.0030-1299.2007.15217.x>
- 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. <https://doi.org/10.1139/a06-008>
- Menzel, T.O., Keddy, P.A., Kandalepas, D. & CAMPBELL, D. 2006. Grasshopper communities in relation to plant species and habitat type within the West Lake Pontchartrain Basin. *Proceedings of the Louisiana Academy of Sciences* 68:1-12.
- Keddy, P.A., Smith, L., CAMPBELL, D.R., Clark, M. & Montz, G. 2006. Patterns of herbaceous plant diversity in a Louisiana pine savanna. *Applied Vegetation Science* 9: 17-26. <https://doi.org/10.1111/j.1654-109X.2006.tb00652.x>
- 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. <https://doi.org/10.1023/A:1026258114901>
- 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. <https://doi.org/10.1046/j.1365-2664.2003.00782.x>
- 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. <https://doi.org/10.4141/S00-089>
- CAMPBELL, D. R., Rochefort, L. & Lavoie, C. 2000. The recolonisation potential of peatland plants recolonising post-vacuum-extracted bogs. pp. 670-674 in *Sustaining Our Peatlands, Proceedings of the 11th International Peat Congress*, L. Rochefort & J.-Y. Daigle (eds.), Québec.
- 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. [https://doi.org/10.1016/S0380-1330\(97\)70918-3](https://doi.org/10.1016/S0380-1330(97)70918-3)

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. <https://doi.org/10.1080/11956860.1997.11682419>

Other Publications

Campbell, D., Rochefort, L. 2025. *Wetland Mitigation Options for Project Developments in Far Northern Ontario: An Annotated Bibliography*. Birchbark Environmental Research and Peatland Ecology Research Group, Sudbury and Québec.

Rantala-Sykes, B., CAMPBELL, D. 2017. *Collecting Seed from Wild Plants in Northeastern Ontario*. <https://nativewildseed.wixsite.com/nativewildseed>

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.

CAMPBELL, D. R., Rochefort, L. & Lavoie, C. 2000. The recolonisation potential of peatland plants recolonising post-vacuum-extracted bogs. pp. 670-674 in *Sustaining Our Peatlands, Proceedings of the 11th International Peat Congress*, L. Rochefort & J.-Y. Daigle (eds.), Québec.