

### UPDATES

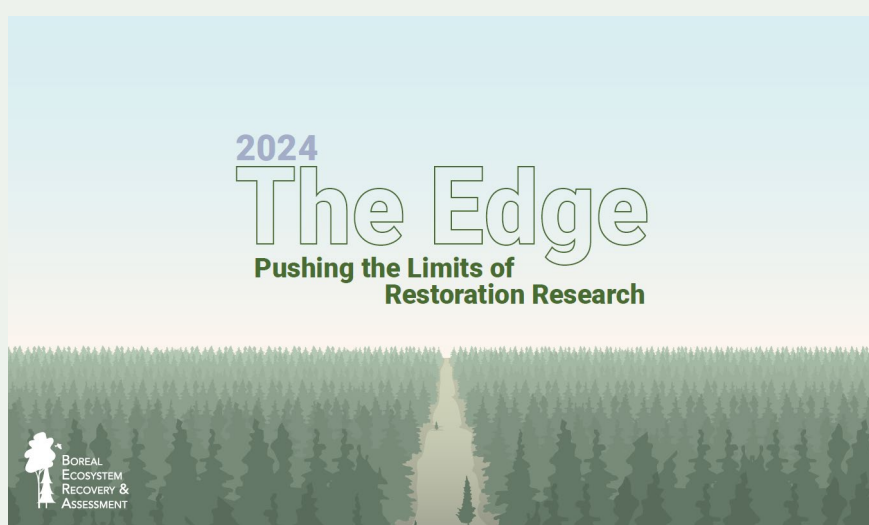
[Brenden Casey](#) successfully defended his [PhD thesis](#). Congratulations Dr. Casey!

[Tanya Yeomans](#) co-curated [Brackish](#): a transdisciplinary art exhibition celebrating water-related research on campus at UofC. Check out Xue Yan Chan's BERA-related contribution to the event: [It's a Fen-tastic Life](#)

Members of the Remote Sensing team attended [AGU 2023](#) in San Francisco. Xue Yan Chan took home an [Outstanding Student Presentation Award](#)

Members of the Wildlife Team and Vegetation team presented at the [Alberta Chapter of the Wildlife Society Meeting](#) in Jasper

### BERA's 2024 Synthesis Report Released



BERA conducts research on every phase of restoration — planning, implementation, and monitoring — to provide practitioners with the key knowledge, tools, and techniques they need to enhance understanding and improve outcomes of restoration activities. Read all about our research highlights from the past year [here!](#)

### RESEARCHER PROFILE

Dr. Marissa Davies is a Postdoctoral Fellow at the University of Waterloo and is part of the [Soils and Ecohydrology Team](#). Her research addresses how climate, ecohydrology, and disturbance impact peatland carbon storage. Her project within BERA aims to assess the relative roles of compression and peat loss in altering peatland soil properties on seismic lines, and to create potential recovery trajectories for microtopography using peat-accumulation rates. Marissa enjoys hiking, camping, and birdwatching.



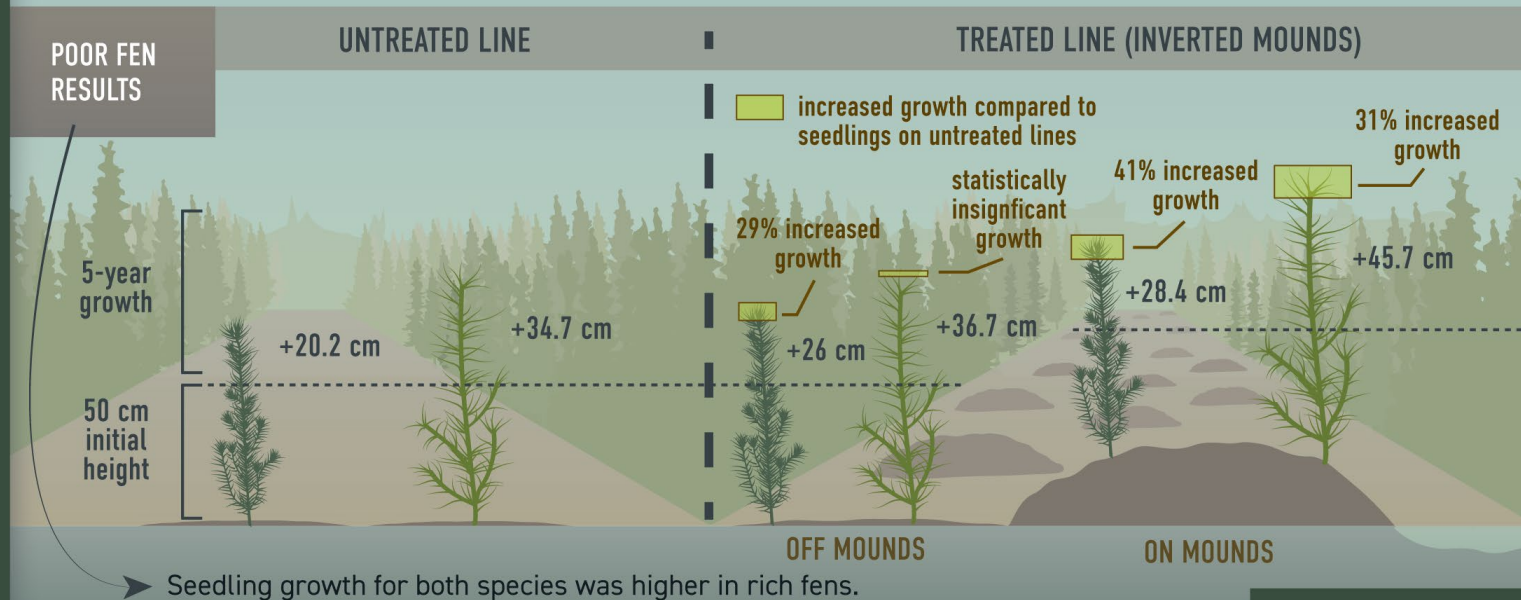
# Mounding improves seedling growth

Seismic lines disturb threatened woodland caribou habitat. When seismic lines are left to naturally regenerate, trees often struggle to grow back, especially in boreal peatlands due to compaction and loss of micro-sites.

Inverted mounding is an established technique used in forestry to enhance tree growth on wet and cool soils. While it is increasingly used to restore seismic lines, its effectiveness to improving seedling growth is largely untested there.

We studied the effect of mounding on black spruce and tamarack seedling growth on seismic lines in boreal treed fens in Alberta.

Overall, inverted mounding and tree planting improved early seedling growth over five years for black spruce and tamarack in both nutrient poor and rich treed fens.



Seedling growth depended on species, ecosite, initial seedling size, and light availability. Therefore, **site-specific prioritization of mounding may prove more efficient** than generic restoration prescriptions on seismic lines in peatlands.



**Restoration managers should consider a range of ecosystem values** (hydrology, carbon and methane cycling), continually looking for ways to improve practices, and consider other mounding techniques that are designed to preserve the peat profile.



SHELLIAN ET AL., 2024  
DOI:10.1111/REC.14086

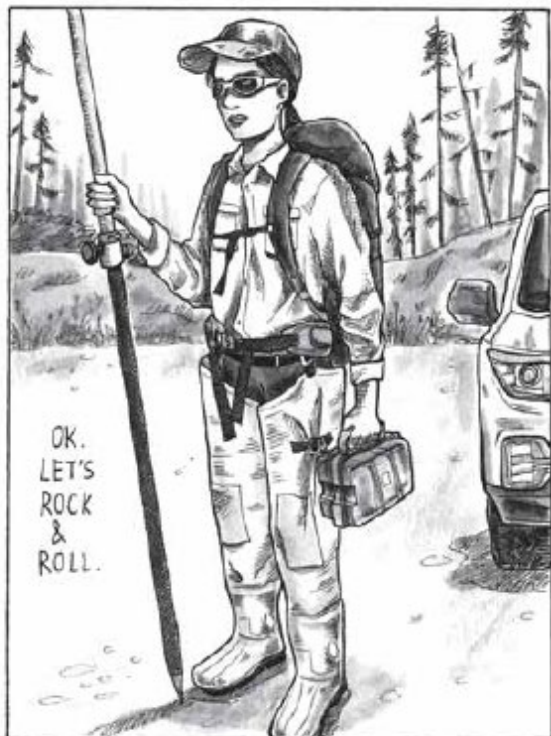
INFOGRAPHIC BY FUSE CONSULTING

Colette Shellian et al.'s latest paper provides important new information on the growth performance of seedlings planted on inverted mounds in boreal fens. You can read their full open-access manuscript [here](#).

- Shellian, C.A., J. Linke, G.J. McDermid, M. Cody, and S.E. Nielsen. 2024. Silvicultural treatments hasten seedling growth on seismic disturbances in boreal treed fens. *Restoration Ecology*, 32(3): e14086. [doi: 10.1111/rec.14086](https://doi.org/10.1111/rec.14086)



# IT'S A FEN-TASTIC LIFE



[Click through](#) to read the rest of Xue Yan Chan's story about BERA field work!

