

# HOW SEISMIC LINES ALTER SOIL PROPERTIES

**Seismic lines form vast networks over Canada's boreal peatlands.** These disturbances flatten and compress soil, disrupt water flow, and alter biogeochemical processes, which can prevent the recovery of natural vegetation.

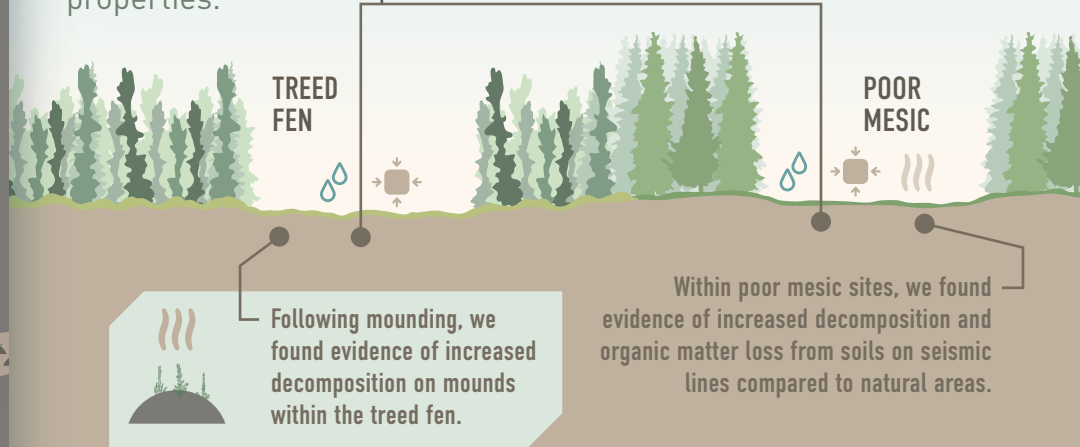
Restoration techniques, like mounding, seek to recreate natural microtopography and encourage ecosystem recovery. However, **little is known about how seismic line disturbance and subsequent mounding treatments affect soil properties.**



This study compared soil properties of seismic lines and adjacent natural areas and examined how soils changed following mounding. 34 seismic lines (and adjacent natural areas) in poor mesic and treed fen ecosites were sampled near Fort McMurray, Alberta.

Seismic line disturbances impact soil properties.

In both poor mesic and treed fen ecosites, soils on seismic lines were wetter and more compacted.



Seismic line disturbance and restoration could have major implications for carbon cycling. Future research should investigate alternative mounding techniques to encourage tree recovery while minimizing carbon losses from the system.

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