Is peatland plant diversity recovering on seismic lines?

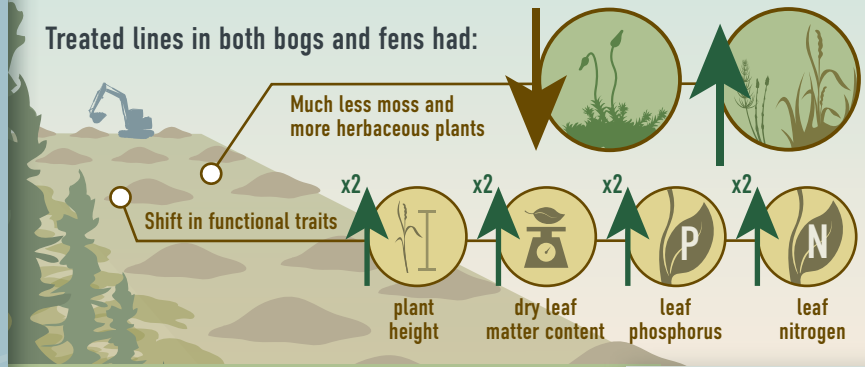
Alberta's boreal peatlands are fragmented by a dense web of linear features, like seismic lines. Vegetation regrowth is often stunted in peatlands, which can have ecological consequences across the region—a key conservation challenge. Restoration treatments like inverted mounding aim to restore microtopography and help vegetation regrow on lines, but their effectiveness at restoring plant diversity in peatlands remains unclear.

To better understand how peatlands are recovering, we compared understory plant diversity across treated and untreated seismic lines with undisturbed sites in bogs and fens.

We measured three types of diversity:

What we found:

Treated lines in both bogs and fens had:



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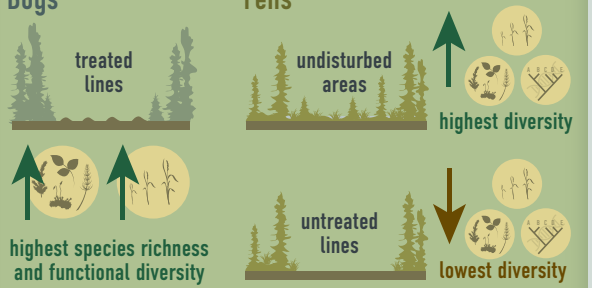
Plant diversity in bogs and fens responded differently on seismic lines:



Implications

- Peatland restoration assessment and strategies should be **ecosystem-specific** and **consider multiple levels of plant diversity**.
- Mounding may increase some types of plant diversity, but **treated lines are becoming less like undisturbed peatlands**.
- **Long-term monitoring is required** to refine restoration strategies and understand their effectiveness at recovering boreal peatlands.