

Boreal songbird response to linear feature width

Alberta's Boreal Forest is covered by a patchwork of landscape disturbances created by the energy sector, like linear features. Linear features vary in width, vegetation recovery, and levels of human use, potentially resulting in different effects on songbird communities. Using autonomous recording units (ARUs), we investigated if and to what extent linear feature width may impact boreal songbirds.

Specifically, we monitored songbird responses to narrower vs. wider linear features in upland mixedwood and deciduous forests:

4 to 8 m wide
seismic lines

VS.

transmission lines
pipelines
15 to ~100 m wide

What we found

Linear feature width is a key driver of songbird diversity and species composition. Species show different threshold responses to linear feature width.



Wider lines (pipeline and transmission lines)



higher species richness and diversity than on narrow lines (seismic lines).



more bird species that prefer shrubby vegetation and open habitats (i.e., for nesting and foraging)

Implications

Since songbirds respond to line width, **land managers, researchers, or other stakeholders should consider line width rather than line type** when assessing linear feature impacts and making restoration or management decisions. This will help manage impacts on birds and prioritize lines for restoration.



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