

# A landscape-scale perspective on caribou habitat restoration

Seismic lines threaten woodland caribou in the Alberta boreal forest by fragmenting habitat and changing predator-prey dynamics. Seismic line restoration is expensive with current approaches often ignoring landscape factors like **edge effects, line density, configuration and overlapping disturbances**. We demonstrate a restoration planning approach that **prioritizes restoring seismic lines where caribou habitat will be most efficiently defragmented** by also considering these other factors.

## Landscape factors:



OVERLAPPING  
CODISTURBANCES



EDGE  
EFFECTS

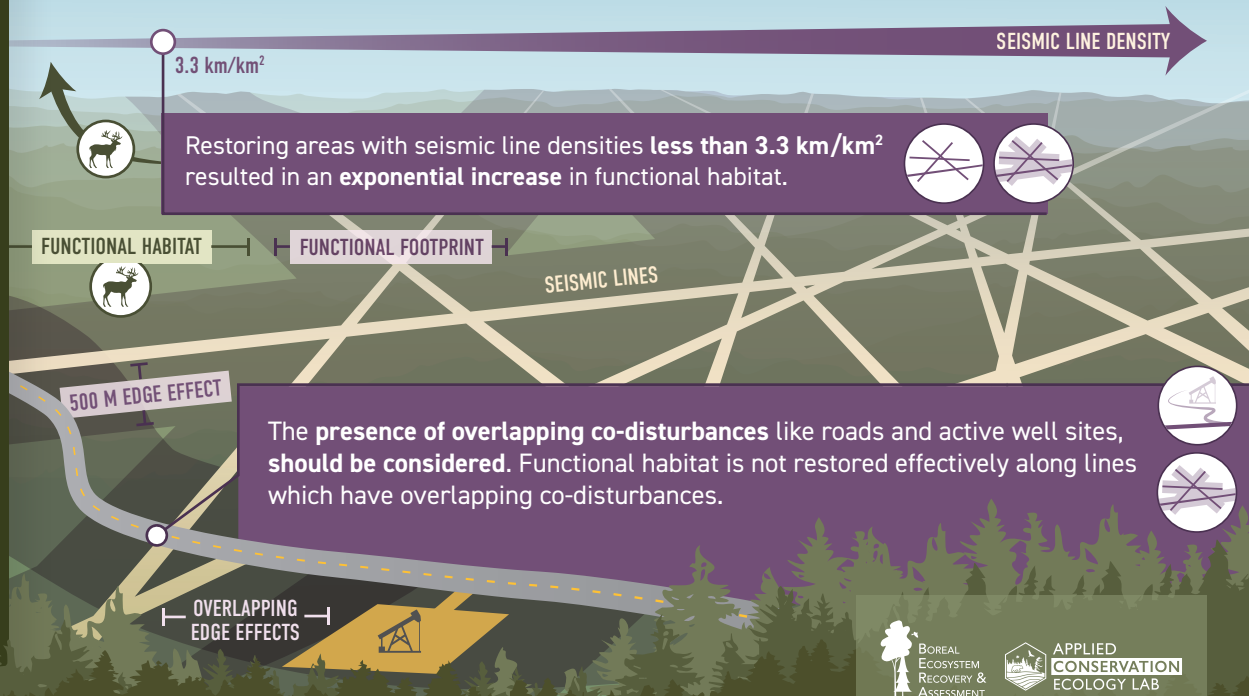


LINE DENSITY  
AND CONFIGURATION



Because of the high cost of restoring seismic lines, understanding where restoration will have the greatest benefits to caribou and other wildlife is critical. **This approach can improve the cost-effectiveness of restoration efforts by 25-fold.**

We compared changes in functional habitat for caribou and other wildlife for unrestored and fully restored landscapes to evaluate the most efficient places to maximizing caribou habitat restoration.



APPLIED  
CONSERVATION  
ECOLOGY LAB

VILIANI ET AL., 2023

DOI: 10.1007/S10980-024-01972-3

INFOGRAPHIC BY HAYLEY AT FUSE CONSULTING