



Blue Box Seminar Series

Department of Geography

PRESENTS:

Beyond Black Spruce: Alternate Trajectories in Subarctic Yukon

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Rapid warming in northern climates is altering plant successional trajectories at their northern extent. Changing fire regimes (i.e., more frequent, larger-size, and greater severity fires) under ongoing climate change are predicted to further influence changes in vegetation successional trajectories. New fire regimes impact the vegetation legacies (i.e., ecosystem structures and function) on the landscape, which dictate the regeneration success of forests and can rapidly change ecosystem states to non-forested trajectories. Previous research in the Eagle Plains area of northern Yukon of sites that experienced two closely timed fires has shown a failure of black spruce (*Picea mariana*) regeneration and is currently undergoing a shift in plant successional trajectories. Our study characterized the regeneration trajectories in sites that experienced overlapping burns and examined the driving abiotic factors behind these changes. We found evidence of alternate regeneration trajectories favouring tall shrub growth. A shift to shrub dominated sites may have implications on culturally significant species such as barren-ground caribou (*Rangifer tarandus*), various plant species that are commonly harvested for berries, and those that depend on these species. It will also have impacts on important ecological processes and ecosystem functions such as carbon sequestration, nutrient cycling, and permafrost dynamics.

Friday April 21st, 3-3:30pm, online

<https://us02web.zoom.us/j/82820660139?pwd=dGFTZkNDTkp6VmxqVHFaemZYNGs5Zz09>