

## ***Vegetation Team: Fire, Seismic Lines Promote Blueberry Production***

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### **Project Summary**

There is limited information on how velvet leaf blueberry (*Vaccinium myrtilloides* Michx.), an important cultural plant and source of food for wildlife, responds to fires and the small forest gaps associated seismic lines. To address this issue, we measured the effects of forest gaps from seismic lines versus adjacent (control) forests across a fire severity (% tree mortality) gradient for a recently burned (5-yrs. previous) jack pine forest. We measured the presence, abundance (cover), vigor (height), and berry production of blueberry shrubs. Presence was greatest in forests that experienced low to moderately-high fire severity. Abundance did not differ among seismic lines or adjacent forest, nor did it differ along a fire severity gradient. However, vigor and berry production were greater on seismic lines compared to adjacent forests with fire severity positively related to berry production, but not plant vigor. After controlling for changes in plant cover and vigor, berry production still increased with fire severity and within seismic lines compared with adjacent forests. Our findings suggest that narrow forest gaps from seismic lines and fire severity interact to affect the fecundity (berry production) and growth (height) of blueberry shrubs. This has important implications for assessing the ecological effects of fire on linear disturbances associated with energy exploration in the western boreal forest.



### **Management Implications and Lessons Learned**

Open seismic lines promote berry production in blueberry shrubs, especially if recently burned. Restoration actions that promote regrowth of forests on seismic lines would reduce vigor and berry production to being similar to that of adjacent forests. This would reduce the value of these sites to wildlife, especially black bears that are predators to woodland caribou, but also cultural values (harvesting by indigenous peoples). This work quantifies increases in fruiting shrubs associated with fire and linear forest gaps associated with seismic lines.

### **Publication(s)**

Dawe C., Filicetti, A. T., and Nielsen, S.E. (2017). Effects of linear disturbances and fire severity on velvet leaf blueberry abundance, vigor, and berry production in recently burned jack pine forests. *Forests*, 8(10), 398.