Staff for this project provided by the

2017: Pre-Prescribed Burn Pine Forest Monitoring

Quetico is well known for its stately red and white pine forests: windswept, open, and home to a variety of plants and animals. These pines are fire dependant; they require frequent, low intensity fire to remain on the landscape. Low intensity fires open up the forest canopy, return nutrients to the soil, and clear away accumulated dead wood and leaves, creating the perfect conditions for young red and white pine seedlings to thrive. However, through most of the 1900s, every effort was made to put fires out (remember Smokey the Bear?). Resource managers throughout the boreal forest are now working to reintroduce fire back onto the landscape through carefully planned prescribed burns and active management of natural fires. But how can we know if these efforts are in fact benefiting pines?

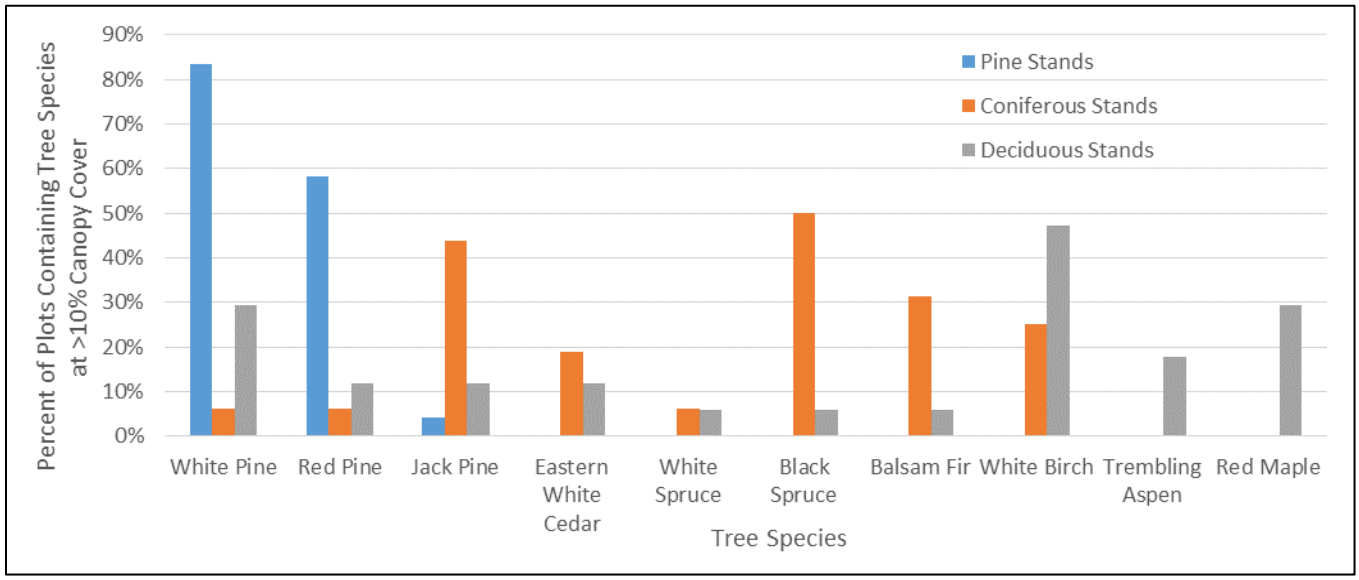
Crews learn to classify forest stands.

During the summer of 2017 the Quetico Foundation Summer Student Research Crew surveyed 57 vegetation plots in pine forests throughout Quetico Park. These plots are in areas that are planned for a prescribed burn in the next few years. Their assessments give managers a picture of the forest composition and structure after decades of fire suppression. In future years this picture can be compared to the forest stands that regenerate after a fire. This comparison will allow for an assessment of how effective prescribed fires are at maintaining pine forests and help predict the composition of future forest stands based on what exists today.

A recently burned pine stand with red and white pine regeneration.

What does Quetico's pine forest look like now?

Pine stands were found to have a very tall upper canopy of red and white pine with a lower, secondary tree layer consisting of balsam fir and other coniferous species. In all of the plots surveyed balsam fir, spruce and deciduous shrubs were very common. This dense shrub layer could act as a fire 'ladder', helping low intensity ground fires reach the forest canopy. There were very few young pine seedlings and saplings.



Species composition of the upper canopy layer in Pine, Coniferous, and Deciduous dominated stands.

Above: A typical pine stand today with a dense shrub layer.
Right: Regeneration in a recently burnt pine stand.
Center: A pine seedling growing after a fire.

Keep an eye out for research crews in the Park over the next couple years; they will be monitoring the same stands post-fire.

For more information see the full report "Pre-Prescribed Burn Monitoring in Quetico Provincial Park (Adair 2017)" available from Park Biologist Brian Jackson at **brian.w.jackson@ontario.ca**

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