

Red Pine, Fire and People

Understanding the historical human influence on surface fires in Quetico Provincial Park



Dated cross section of red pine stump collected from Lac La Croix, Quetico Provincial Park. (photo by Evan Larson, U. of Wisc.)

This summer, staff from Quetico Park and the Quetico Foundation will work with members of Lac La Croix First Nation and researchers from University of Minnesota and University of Wisconsin on a project to better understand the frequency of surface fires in red pine stands in Quetico Park. Surface fires are low intensity fires that burn surface litter and undergrowth but typically don't kill red or white pine trees, especially if they are mature. These fires are important in allowing the regeneration of red and white pine and maintaining their presence on the landscape.

Crews will be collecting cross sections from red pine stumps and using a technique called crossdating to determine the age from trees' rings, identify the years fires occurred and the number of years between fire events. Many of these stumps are from trees that originated in the 1700's or earlier allowing us a glimpse into the past. Because of the high resin content in fire-scarred red pine, even trees that died 100 years ago often have stumps solid enough to allow dating to occur.

Past research along the border lakes between Quetico and the BWCAW has shown that surface fire frequency is typically higher along traditional travel routes including those that were used as fur trade route in the late 1700's/early 1800's. This suggests a human influence on past fire frequency and maintenance of pine stands. Peel trees are long-lived evidence of human activity often associated with areas of higher fire frequency. These are red pine trees that have had a narrow strip of bark peeled removed from about shoulder to waist height. Based on conversations with local First Nations members and historical accounts, this was often done in the past to assist collection of red pine pitch which was used as a sealant in the production and repair of birch bark canoes. As the trees have healed around the peel site, they have created distinctive scars with rounded healing lobes. These can be observed at a number of locations around Quetico, including at Lac La Croix and The Pines on Pickerel Lake.



Historical "peeled" red pine trees at The Pines - Pickerel Lake, Quetico Provincial Park.

The data resulting from these surveys will be brought to Lac La Croix First Nation for their assistance in interpreting the results of the study. This information will be valuable in understanding frequency of surface fires, how human activity influenced this frequency and the importance of surface fires to maintaining red and white pine stands in Quetico. It will be valuable for informing the review of the Fire Management Plan for Quetico which will occur over the next few years.

One of the most interesting questions of this research is what it says about wilderness. Although often thought of as "areas untouched by humans", what does wilderness actually mean when indigenous peoples have been living in and influencing the Quetico landscape for centuries? Mature old growth red pine stands, which are seen by many as icons of the wilderness nature of Quetico, may in some cases be the result of fires started by human activity and this activity may be important in maintaining their current presence in the park. Increased understanding of historical and traditional activities and their importance on the landscape will be important as we move forward in managing Quetico Provincial Park in partnership with Lac La Croix First Nation as outlined in the new Park Management Plan.

