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Effects of thinning on mixed wood stands

The University of Alberta team measured trees for the Western Boreal Growth and Yield Project Long- term Study, near Big River, Saskatchewan. The last complete remeasurement of these stands was completed in spring 2011 by the Canadian Wood Fibre Centre. To properly document the properties and patterns of the stands, remeasurement should be completed every three years. Analyzing the collected data, the team evaluated the effects of aspen and spruce densities on long-term growth and yield, wood quality, and other timber supply implications.

PROJECT TITLE
Effects of pre-commercial thinning on dynamics and resilience of mixedwood stands

ORGANIZATION
University of Alberta

CONTACT
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START DATE
1 April 2018

END DATE
31 March 2020

COLLABORATORS
Saskatchewan Ministry of Environment; Forest Growth Organization of Western Canada

The objective of the project was to examine how climate and thinning affect resilience and tree growth in mixedwood stands. The team designed the project to develop solutions for managing boreal mixedwood stands in a way that makes them more productive and more resilient to natural disturbances.

In the two-year project, the research team:

- Remeasured all previously tagged trees, selecting taller spruce and aspen
- Measured branches on the two tallest spruce in each plot
- Collected cores for two spruce and two aspen
- Entered and analyzed data to create a growth model
- Simulated and examined how 15 thinning treatments might affect growth, yield and wood properties

The project improves the management of western boreal forests, identifying opportunities to moderate wood supply shortages and make forests more resilient. Sustainable mixedwood management can diminish reliance on herbicides in western Canada. This project also supports sound forest management decision-making by governments, industry leaders and investors for white spruce and aspen trees and beyond.

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