ALBERTA INNOVATES

AGRICULTURE AND ENVIRONMENT

ENVIRONMENTAL INNOVATION

LAND MANAGEMENT SOLUTIONS

Silvicultural Practices to Support Climate Adaptation in Alberta Forests

The project will compare innovative silvicultural practices to better support forest resilience in the face of a changing climate. Post-harvest sites will be evaluated under two themes, (1) Seedling-based practices and (2) Site-scale practices, which will be replicated over time. Theme 1 contains three field studies that are focused on survival and growth impacts related to the timing of seedling planting, and assisted migration of two conifer species, Douglas-fir and Ponderosa pine. In Theme 2, two operational-scale field studies will examine mechanical and chemical site preparation and evaluate potential synergies or trade-offs.

FUNDING DETAILS

RECIPIENT:

Northern Alberta Institute of Technology (NAIT)

PARTNERS:

Weyerhaeuser
Blue Ridge Lumber
NSERC
Alberta Forestry and Parks
Natural Resources Canada

TOTAL BUDGET:

$1,924,715

AI FUNDING:

$500,000

PROJECT DATES:

SEP 2024 – APR 2029

PROJECT TRL:

Start: N/A
End: N/A

APPLICATION

- Guidance to expand planting windows beyond current conventional standards
- Assessment of assisted migration potential of two native conifers
- Improved understanding of how silvicultural treatments may enhance conifer seedling survival and early growth without compromising the recovery of forest plant and biodiversity.
- Foundational information that can be utilized to develop stand-level forest carbon balances in the context of silvicultural treatments.

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PROJECT GOALS

The project will examine the efficacy of innovative silvicultural practices in promoting the sustainability and resilience of Alberta's managed forests and forestry industry to climate-related risks.

BENEFITS TO ALBERTA

The project will help to ensure the resilience of Alberta's managed forests and forestry industry under future climate conditions. The project would directly support Alberta Innovates' objectives related to reducing industrial footprint on the landscape, improving biodiversity conservation outcomes, train HQP/students, generate jobs and contribute to other Alberta Innovates' objectives related to the economy, carbon and EDI.

5 Practices/Policies Informed

5 Publications

14 Students Trained

CURRENT STATUS

AUG 2026

Project is in progress.