

CLEAN RESOURCES

ENVIRONMENTAL INNOVATION
LAND AND BIODIVERSITY

FUNDING DETAILS

A Case Study of Operational Scale Legacy Restoration Efforts in an Operating Forest Management Area in Northwest Alberta

The accumulated and persistent loss of forest productivity from legacy oil and gas reclaimed sites is reducing forestry and other land-use potential across Alberta’s forested land-base, even while accounting for improved reclamation practices. Today, there remains a substantial legacy of certified-reclaimed industrial disturbances that are presently not growing productive or functional forests, resulting in the need for significant and costly restoration efforts. Success of reforestation efforts on previously reclaimed upland forested sites has been mixed. This project will be the first reassessment of an operational-scale legacy site restoration program, from 2005-2009, that was undertaken by a forestry company to bring these sites back into productive, upland forest. These sites were distributed over a 5,000 km² area within the Central Mixed Wood, Lower and Upper Foothills natural subregions of Alberta.



Figure 1. Variability on the landscape illustrated by two sites reclaimed and certified in the 1980s and 1990s.



RECIPIENT:

NAIT

**Dr. Amanda
Schoonmaker**



PARTNERS:

Weyerhaeuser



TOTAL BUDGET:

\$437,934



AI FUNDING:

\$198,332



PROJECT DATES:

NOV 2022 –

JUN 2025



PROJECT TRL:

N/A

APPLICATION

The project will assess a variety of metrics related to aspects of forest recovery on approximately 100 reclaimed-industrial sites that were subsequently treated to address soil compaction through mechanical site preparation and a lack of tree canopy development by planting commercial tree species. Knowledge gained from the evaluation of this trial work will provide valuable guidance and information transferable to forest and energy companies interested in undertaking similar legacy restoration programs in future.

PROJECT GOALS

- The core objective of this project is to provide a quantitative understanding of forest recovery following an operational scale restoration program and to extract patterns in ecological region, ecosite or other attributes that may be used to predict 'success' in future.
- Restored industrial sites will also be evaluated with respect to forest development on sites that were harvested for timber. This comparison will facilitate a deeper understanding of whether these sites are progressing on similar trajectories of tree growth and vegetation development.

BENEFITS TO ALBERTA

- The project will contribute to the development of best management practices that will help to reduce the loss of forested land on reclaimed industrial sites. These practices will also help address the looming challenge of additional losses anticipated from climate change.
- Improved reforestation outcomes on reclaimed industrial sites will enhance biodiversity by establishing important wildlife habitat, support cultural and other land uses, and have the potential to contribute to increased ecosystem carbon sequestration.



**Goal of 1
Practice/Policy
Informed**



**Goal of 1
Publication**



**Goal of 9
Students Trained**



**Goal 2 Jobs
Created**

**CURRENT
STATUS**

APR 2023

The project has been successfully kicked-off and planning for the upcoming field season is underway.