

AGRICULTURE AND ENVIRONMENT

ENVIRONMENTAL INNOVATION

LAND MANAGEMENT SOLUTIONS

FUNDING DETAILS

PEATNet: Peatland Ecological Assessment and Technology Network for Advancing Reclamation and Management of Boreal Peatlands in Alberta

PEATNet is a coordinated, province-wide network designed to evaluate and advance peatland reclamation in Alberta. Industrial activities have created thousands of disturbed peatland sites constructed with mineral fill, leading to ecological fragmentation and long-term hydrological disruption. PEATNet integrates long-term reclaimed sites with active trials to validate mineral fill treatment, revegetation strategies, and ecohydrological restoration approaches. By harmonizing data across a chronosequence of sites, the project reduces uncertainty, improves reclamation outcomes, and generates practical tools, training, and decision-support frameworks for industry and regulators.



RECIPIENT:

**Northern Alberta
Institute of Technology
(NAIT)**

Bin Xu



PARTNERS:

**Government of Alberta,
and
NSERC**



TOTAL BUDGET:

\$1,044,530



AI FUNDING:

\$510,000



PROJECT DATES:

**MAR 2026 –
APR 2030**



PROJECT TRL:

**N/A
N/A**

APPLICATION

Results from PEATNet will be translated into operational tools, technical guides, regulatory briefs, and training programs for industry, consultants, and regulators. These outputs will inform policy refinement, support reclamation decision-making, and improve the effectiveness and consistency of peatland restoration practices. The validated methods and indicators developed through PEATNet will help industry plan earthworks, select treatments, assess recovery, and achieve sustainable, certifiable peatland reclamation outcomes across Alberta.



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PROJECT GOALS

The project aims to:

- Validate mineral fill treatment approaches (partial vs. complete removal) across peatland types.
- Develop and test revegetation strategies including donor transfer, planting, and natural regeneration.
- Assess hydrological recovery and vegetation trajectories across a province-wide network of reclaimed sites.
- Identify reliable short-term indicators that predict long-term peatland recovery.
- Create practical technical guides, a decision-support tool, and best management practices.
- Strengthen regulatory confidence, reduce industry uncertainty, and support consistent, evidence-based peatland reclamation across Alberta.

BENEFITS TO ALBERTA

PEATNet delivers major environmental, economic, and policy benefits for Alberta. It supports the restoration of peatlands that regulate water, store carbon, provide wildlife habitat, and buffer communities from drought, flooding, and wildfire risk.

The project reduces liability for industry by validating reliable, cost-effective reclamation methods and enabling faster regulatory certification. It strengthens policy frameworks by supplying long-term evidence to refine peatland criteria.

Economically, PEATNet stimulates the reclamation sector, develops a highly skilled workforce, and fosters innovation in land management practices. Open-access tools and training will enhance operational efficiency, reduce rework, and support Indigenous and rural community participation in Alberta's growing reclamation economy.



5 Practices/Policies Informed



4 Publications



30 Students Trained

CURRENT STATUS

APR 2026 - IN PROGRESS

TBD