



PEATLANDS PLAIN LANGUAGE SUMMARY

Issued February 2026



Peatlands are a type of wetland where dead plant material accumulates over thousands of years and forms peat. Water availability, climate, elevation and terrain are key to their development, with the depth of peat anywhere from 40 centimetres to three metres, or more. Peatlands include bogs, fens, organic marshes and organic swamps, which rely on slow-moving water to form peat by preventing plant material from decomposing. Peatlands are important ecosystems because they support a wide variety of plants and animals, while absorbing and storing carbon, also known as a carbon sink.



What is a carbon sink?

A carbon sink takes in and stores more carbon dioxide from the atmosphere than it releases. This helps reduce the amount of carbon dioxide in the air, which is good for the environment. Examples of carbon sinks include forests, oceans, and peatlands.

Existing Conditions

In the Local Study Area, there are 15 types of peatlands that make up 63% of this area, with fens and swamps being the most common. Generally, peatland ecosystems are more abundant in the northern portion of the Local Study Area, north of Dusey Lake. Similarly, fen and swamp communities are most common in the northern portion as well. Input from Marten Falls First Nation has also included information about the distribution of peatland environments. In particular, the Community has noted a large area of peatlands and felled trees within the lands between the southern channel of the Albany River to the Pahtegosing River.



What is...

Local Study Area: the area where direct effects of the road are likely to take place. This includes a 10 km buffer on either side of the Community Access Road.



Potential Effects and Mitigations

The construction and long-term use of the Community Access Road has the potential to affect peatlands in the Local Study Area. The potential effects include:

Direct peatland loss due to construction-related activities that would change the availability, distribution, composition and function of peatland ecosystems.

Changes to peatland ecosystems with:

- changes to hydrology and groundwater;
- introduction and spread of invasive plant species;
- fragmentation of habitats and changes to the borders of habitats (edge effects);
- increased public access;
- release of sediment;
- spills of fuel or other contaminants;
- deposition of air contaminants; and
- dust emissions.

Changes to peatland carbon storage flux (the rate at which carbon is being stored or released from the peatland ecosystem).

? What is an ecosystem?

An ecosystem is a community of living organisms and their physical environment.

? What is Hydrology?

Hydrology is the study of water, including how it moves around on Earth, where it is found, and how it interacts with the environment.

? What is an Environmental Protection Plan

An Environmental Protection Plan will be developed, and will be implemented during construction to prevent, detect, control (i.e., remove), and monitor areas with invasive species.

Mitigation measures will be implemented to protect peatland ecosystems and restore affected areas. Some examples of mitigation measures that will be implemented, to minimize direct loss of peatland ecosystems include:

Only clear vegetation within 100 metres, or less where possible, of the right-of-way.

Decommission sand and gravel pits and restore temporary access roads following construction to help natural vegetation return.

Develop and implement an Environmental Protection Plan.

Prevent, detect, control and monitor areas with invasive species.

Have Environmental Monitors on-site during construction to confirm that mitigation measures are being followed correctly.

Develop and carry out a Vegetation Restoration Plan, with specific steps for restoring peatland ecosystems.

Residual Effects

Mitigation measures will minimize effects on peatland ecosystems, but some impacts are unavoidable. There will likely be some lasting (residual) effects on the availability and distribution of peatlands resulting from the loss of vegetation during construction. No additional clearing or disturbance of peatland ecosystems is expected during long-term use of the road.

The potential effects on groundwater quantity and quality in peatlands are considered significant. Mitigation measures such as groundwater monitoring and a water budget study will be set up and adaptive management measures will be implemented.

Even with measures to reduce dust emissions, dust from construction is expected to harm vegetation in peatland communities close to the footprint of the Community Access Road (within 100 metres). Dust produced from the long-term use of the road is also expected to affect the peatland ecosystem, but not to the same degree as during construction. As a result, the negative effects of dust on peatland ecosystems are expected for the lifecycle of the road.

The long-term use of the Community Access Road by the public might lead to invasive species being introduced. This may result in a residual effect on peatland ecosystems.

Cumulative Effects Assessment

The Cumulative Effects Assessment considers the combined effects with other projects occurring in the area, such as (but not limited to) the Northern Road Link, the Anaconda and Painter Lake Forestry Access Road Upgrades, and the Rapid Lynx Broadband projects.

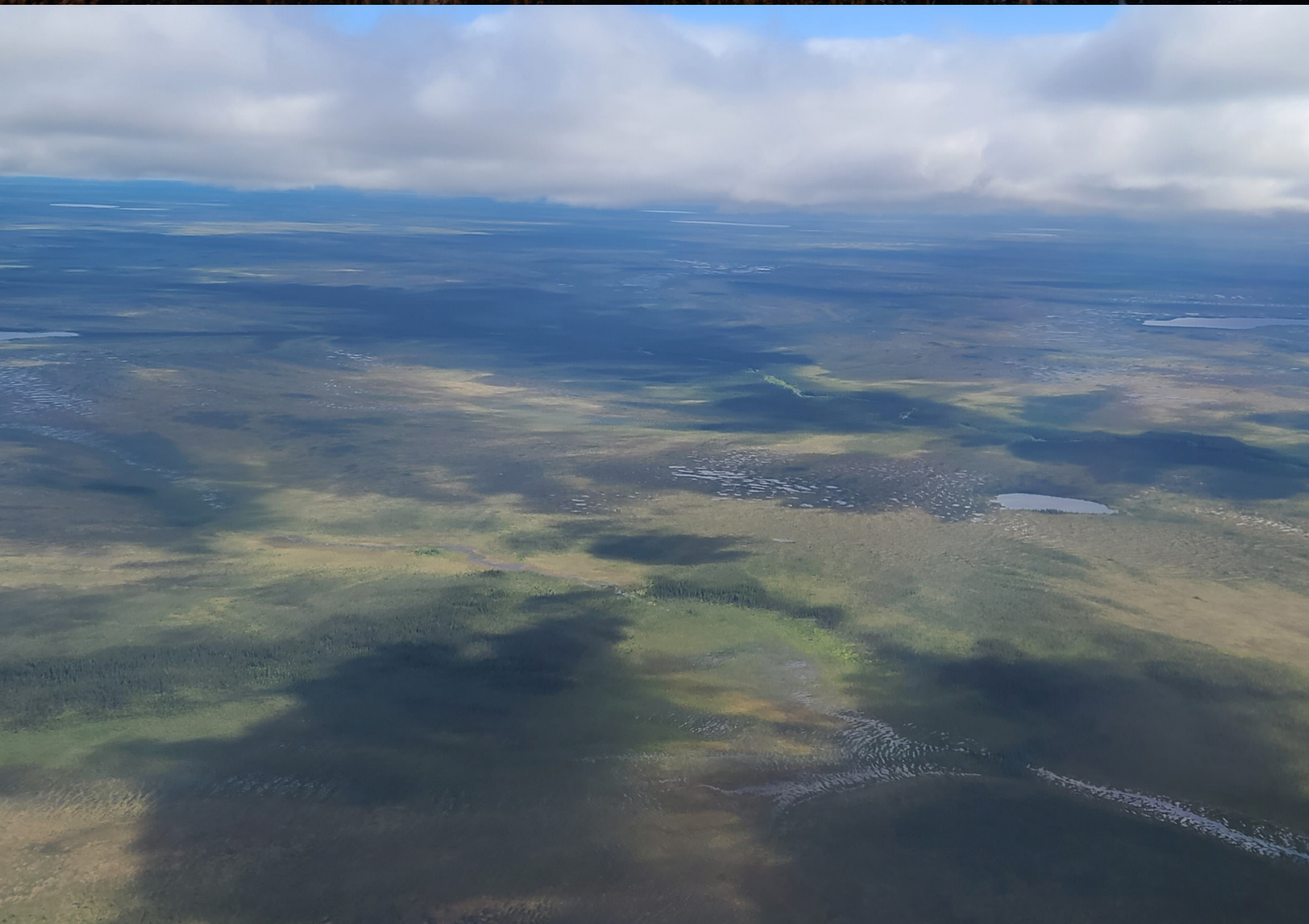
The combined projects in the area are anticipated to result in:

- Direct peatland loss;
- Changes to groundwater;
- Fragmentation of habitats and changes to the borders of habitats (edge effects); and
- Dust emissions.

Overall, the peatland ecosystems are expected to stay healthy and continue to function well.

Monitoring programs for the pre-construction, construction and long-term use of the road will check if the predicted effects are accurate and the mitigation measures effective. Adjustments to these plans will be made as needed.





Want to learn more?

If you are interested in learning more about this topic, please review the technical report available in the appendix of the Final Environmental Assessment / Impact Statement.

Contact Info

You are welcome to contact the Marten Falls First Nation Community Access Road Project Team at any time with questions or comments.

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