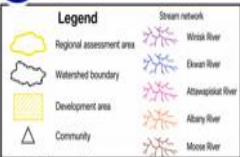


WORKING WITH WATER

A Conceptual Model of Disturbance in Peatland River Systems

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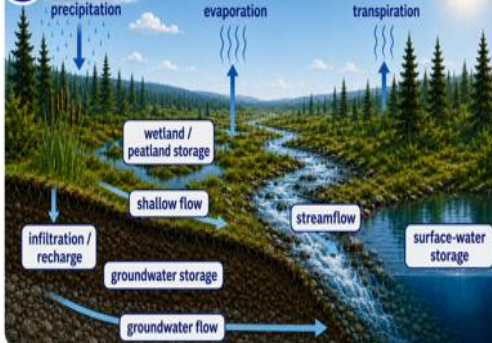
1 Watersheds of the Assessment Area



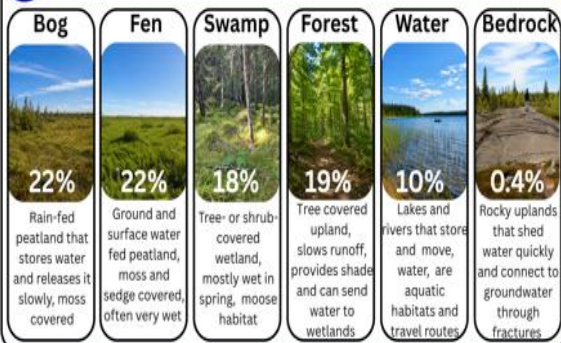
The Regional Assessment Area features 5 main watersheds (right) draining into Hudson and James Bay, and a small section of Lake Superior. These watersheds contain over 200,000 km of rivers and streams which receive water from the vast wetlands, forests lakes that cover the landscape



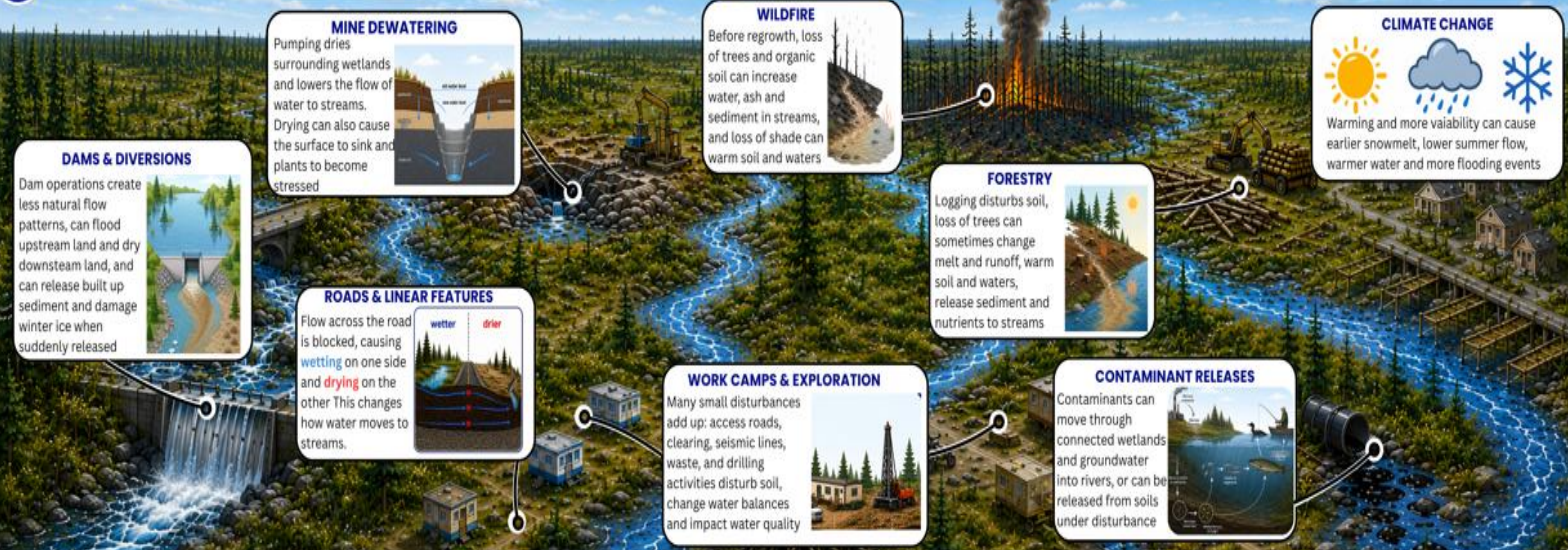
2 How water moves from land to river



3 % Land cover in the assessment area



4 Tracking how disturbance influences landscape connectivity, streamflow and water quality



5 Cumulative effects and indicators of change

Individual changes add up

Effects can build over time and across the landscape

Thresholds can be crossed

When pressures combine, ecosystems can enter a less healthy state harder to restore

Replacing water does not always restore function

Adding water may not replace natural flow if the timing, source, or quality is different

Some indicators of change

- travel route and camp access and safety
- fish and wildlife health or behavior
- health of berries and medicinal plants
- water look, taste and smell
- river/ wetland flooding or drying

6 Next steps to measure, map and model change

1 Measure

- wetland and surface water levels
- streamflow
- water quality
- plants and animals
- community observations

2 Map

- vegetation and moisture
- land cover
- surface water, snow and ice
- disturbance footprints

3 Model

4 Support Decision-Making

- community health and sovereignty
- source water protection
- fish and wildlife conservation
- land use planning