Hardwood management and biomass recovery

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Our vision for hardwood management

At Groupe Savoie, we work with the opportunities the forest provides. We believe in diversification and maximizing the value of the forest resource to generate economic activity and help our communities thrive.

Our vision for hardwood forests

Value from the current harvest

– Direct each tree to its best available market

– Grade products from sawlogs, pallets from low grade wood (pulp/pallet) and energy uses (biomass, sawdust and chips)

Quality for the next harvest

– Retain promising trees and established hardwood cohorts

– Aim for repeated entries on suitable sites

A future hardwood land base

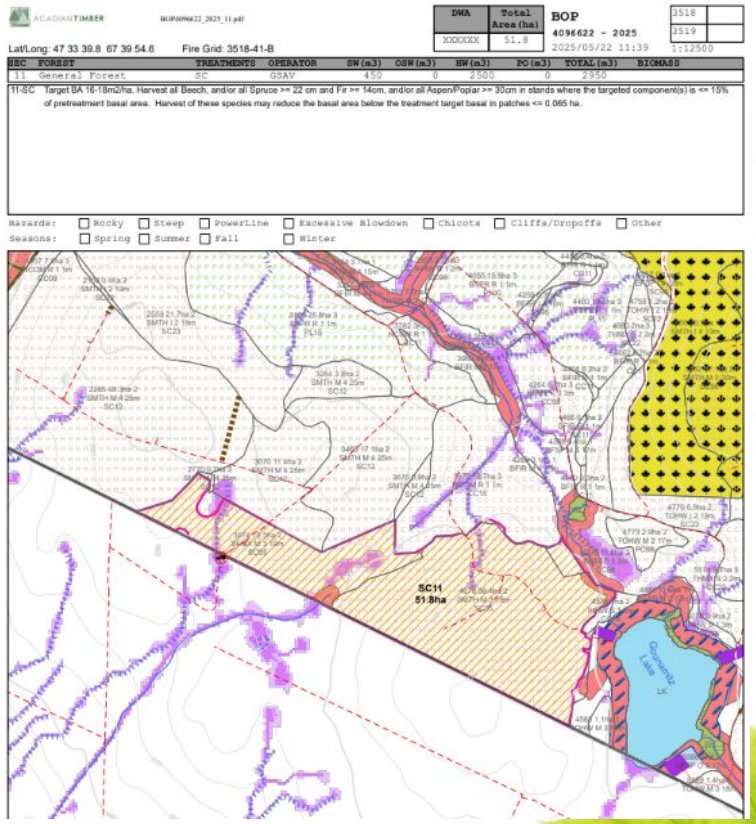
– Maintain operable hardwood hectares (promote natural regeneration and/or protect the established cohort))

– Support long-term mill supply and community activity

Case study: 409-6622

Two interventions under Groupe Savoie

- First entry: about 1989-90
- Second: 2005
- Third entry: winter 2026 (20 years)
  - 65% Sugar Maple
  - 30% Red Maple
  - 10% Yellow Birch



Residual stand and next entry

– Residual basal area: 18–20 m²/ha

– Objective: return in 20–25 years (2045)

How we do it … the first steps

Field inventory and prescription

– Visit (cruise) blocks submitted by the license
– Use the SPS to assess treatment choices
  - Working with NHRI tools
– Install a wood chance (harvest rates)



Quality and contractor viability

– Keep trees with future quality potential + desired Basal area

– Harvest rates reflect the technical work required and projected machines production (m3/hr)

HARDWOOD MANAGEMENT

What Was Harvested in the Third Entry?

Block 409-6622

Harvest Results

Item	Result
Harvested area	51.8 ha
Total harvested volume	**3,797 m³**
Hardwood sawlogs	**1,030 m³**
Hardwood sawlog share	27% of total volume
Estimated gross timber value	**$305,782**
Harvesting and trucking payments*	$176,563
Provincial stumpage revenue	$78,229

* Includes estimated trucking costs.

Harvesting, trucking and stumpage are included in gross timber value.

Gross timber value is before processing and does not represent profit.

Forest management with multiple objectives

Future timber value

– Retain hardwood quality and growing stock (value $/Ha)

– Evaluate outcomes beyond the initial cost per m³



Diversity and resilience

– Maintain suitable species and diversified forest structures

– Hardwoods can contribute to help mitigate wildfire

Habitat and continued use

– Retained cover supports multiple forest uses (salt block in the stand!)

– Explore management with several objectives

What Sets Groupe Savoie Apart from Other Mills

We have the flexibility to use a wide range of wood products and tree species.

Products

– Sawlogs in grade lumber and components
– Pulpwood through our Sorting Plan and 4 foot mill (pallets)
– Branches to biomass for wood pellets mill

A flexible mix of species

– Maple, Birch (White or Yellow) and Aspen

Further uses for the harvested fibre

Chips and sawdust

– Chips for pulp markets (transport - paper mills)

– Sawdust for ecological heating products (bricks, blocks etc)

Biomass and other suitable material

– Feedstock for pellet production (from harvest residues)

– Further value through handling and transformation (between mills etc)

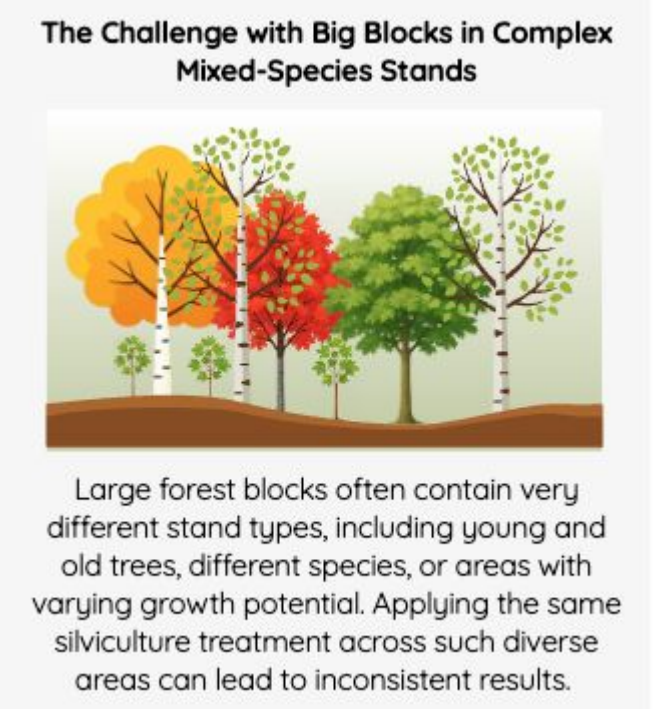
Community activity

– Harvesting, transport and manufacturing

– Jobs throughout the wood value chain

Stratification of harvest blocks

Treatment choices at a finer scale



ref: NHRI - The Leaflet winter 2026

“We found a way to plant six-metre-tall trees”

An established head start

– Existing roots and adaptation to the site

– Years of growth already in place

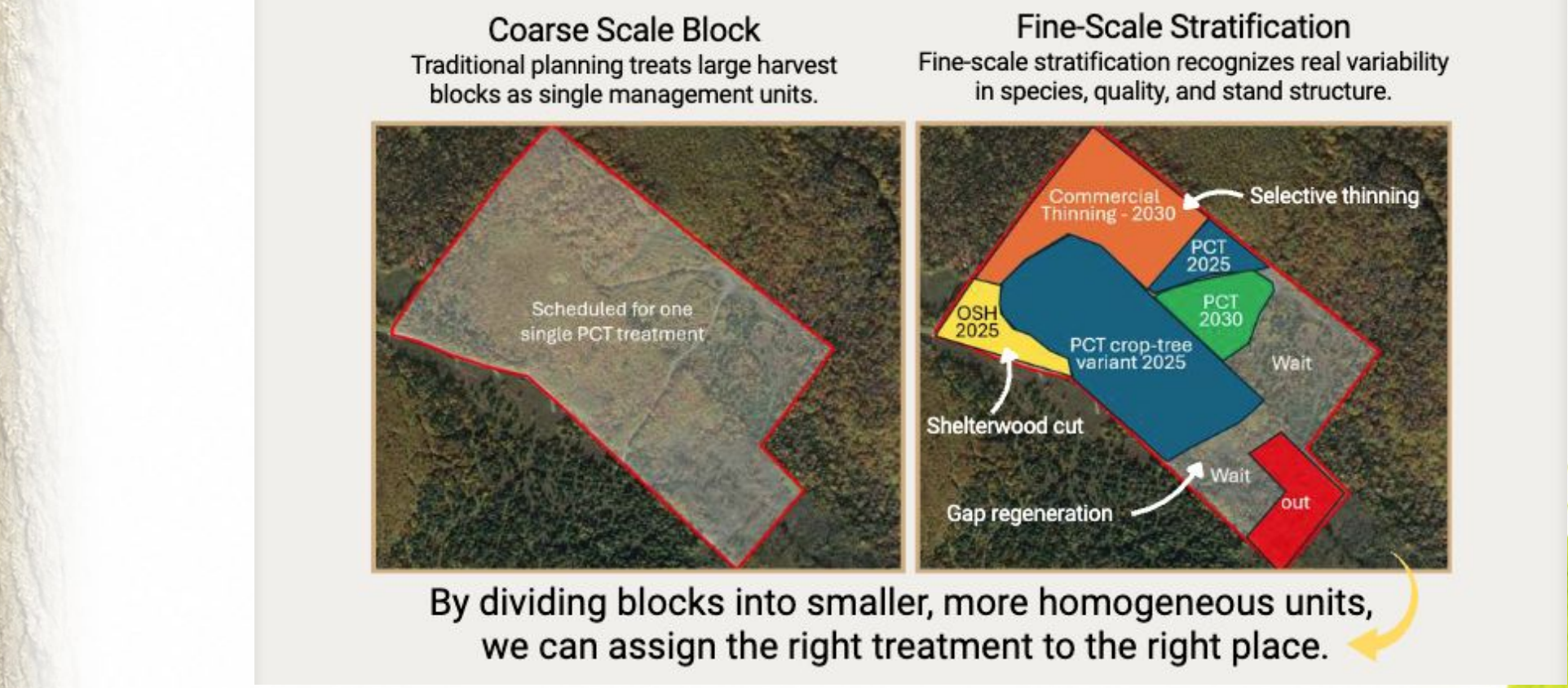
Quality for a future harvest

– Retain promising trees and release their growth
– Invest technical effort in future potential



GSI has converted more than 120 ha to Px since 2025-26 !!!

Different stand within one harvest block



ref: NHRI - The Leaflet winter 2026

Our stratification process

Assessment and prescription

– Identify the potential section and collect field data
– Apply the NHRI' SPS to determine the appropriate prescription

Implementation and reporting

– Mark boundaries (GPS) and brief the contractor
– Track treatment areas and eligible volumes



The NHRI case: 146 hectares

A different treatment allocation

– Clearcut area: 98 ha before, 23 ha after

– About 75 ha retained in hardwood production

Projected supply over 80 years

– About 16,000 m³ across those 75 ha

– Includes about 4,350 m³ of sawlogs



Repeated harvests with more sawlog volume

Year	Hardwood total	Sawlogs	Sawlog share
0	20 m³/ha	2 m³/ha	10%
20	50 m³/ha	10 m³/ha	20%
45	60 m³/ha	18 m³/ha	30%
80	80 m³/ha	28 m³/ha	35%

Modelled total: 210 m³/ha of hardwood, including 58 m³/ha of sawlogs

Source: NHRI, The Leaflet, Winter 2026

Economic value per hectare over 80 years

Management scenario	Net financial value per hectare
Clearcut and spruce planting	$1,290
Stratified hardwood retention	$1,740
Advantage of hardwood retention	+$450 (+35%)

Future revenues and costs expressed in today’s dollars

80 years · 3% discount rate · NB 2022 stumpage values

NHRI case study · Earlier revenues and avoided plantation costs

Stumpage credits are essential

Technical treatments have a cost

– Selection can reduce harvesting productivity

– Contractors need compensation for the work required

Credits make the work viable

– Essential for this approach

– Support continued contractor participation

An investment on Crown land

– Retain potential for quality sawlogs and future royalties

– Sustain activity through the wood value chain

Biomass recovery from GSI operations

Harvest preparation, forwarding and chipping



Biomass recovery at Groupe Savoie

Preparation by harvest system

– Tree-length: full tree roadside system

– Cut-to-length: biomass prepared on field

A connected recovery chain

– Dedicated forwarding to roadside

– Morbark chipping and truck transport



Tree-length harvesting

Buncher-Grapple Skidder-Delimber-Slasher

50 000m3 to produce approx. 12000 GMT of biomass





Cut-to-length harvesting

Single-grip processing in the stand

– Branches remain side trail where trees are processed (30 degrees)

– Biomass preparation help later collection by the forwarder (very small lost of production)

Forwarder access

– Arrange material roadside for the chipper

– Coordinate the method with harvester operators

An adapted operating method

– Approach developed with the research institute

– Preparation connects harvesting with biomass recovery

Biomass forwarder

Collection of prepared material (25-30000 GMT)

– 160-180 loads per week (2 shifts)

– average 5.8 GMT per load

– Bring material to the chipping area

– Now owned by the chipper owner
-Stream line the process





The roadside chipping operation



Morbark chipping and truck transport

Chipping at roadside

– Feed material into the Morbark chipper

– 3 to 5 trucks depending of the location

Transport to mills

– Move the material to our pellet mill (dumper)

– 55 to 60 000 GMT per year



Our priorities for future hardwood supply

Quality and future supply

– Thinking about doing something else than CC, the easiest method is not the best method
– Retain promising trees on suitable sites (working with the forest)
– Use stratification to match treatments to the stand (smaller scale)

Viable field operations

– Support contractors through suitable rates
– Recognize technical requirements and production impacts

Value through the entire chain

– Use complementary markets for harvested wood, continuous diversification
– Looking for more biomass opportunity, recovery and transport

Questions and discussion

Hardwood management

– Future stand quality and value per hectare

Stand stratification

– Treatment choices

Biomass recovery

– Coordination between harvesting and recovery operations