SILVA21

2025 Annual General Meeting

SUMMARY REPORT

APRIL 29 - MAY 1, 2025

IN SPECIAL COLLABORATION WITH

SUSTAINABLE FORESTRY INITIATIVE

SFI-00001

www.silva21.com

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Honouring the 11 Indigenous nations of Québec including the Wabanaki Nation

Silva21 acknowledges that we, and the participants of this event, were visitors on the unceded territory of the Wabanaki Nation who have cared for this land for millennia. We recognize the 10 other Indigenous nations that exist across the province of Québec. These 10 First Nations and 1 Inuit Nation - each with its own distinct history, language and culture - collectively represent just over 1% of Québec's population and are 41 communities spread across the province.

The Silva21 community recognizes the importance of Indigenous stewardship, histories, and sovereignty in the context of forestry and ecological resilience. We pay our respect to past, present and future Elders and express our gratitude for the ongoing contributions of Indigenous peoples in shaping sustainable land and forest management practices. At the same time, we recognize that colonization has had a profound and lasting impact on Indigenous people, their rights, and their connection to the land. Across Canada, Indigenous communities have been forcibly placed on reserves and settlements that, despite covering only a small fraction of Québec's territory, are home to the majority of First Nations people.

Silva21 is committed to learning from Indigenous knowledge systems, engaging in meaningful partnerships and promoting reconciliation in the field of forestry. We encourage all members of our community to reflect on the importance of Indigenous perspectives in forest stewardship and the co-creation of knowledge when considering forest resilience and sustainable land management.

Executive summary

The 2025 Silva21 Annual General Meeting brought together over 70 participants from across Canada, including from 5 different universities, research scientists from 5 branches of federal and provincial government, professionals from 5 forestry industry partners, Indigenous representatives from 8 different First Nations, 28 highly qualified personnel (HQPs), and many more friends and partners of Silva21. Hosted in Sherbrooke, Québec, and held in collaboration with the Sustainable Forestry Initiative (SFI), this 4th AGM focused on climate-smart forestry, collaborative innovation, and the translation of research into practice.

The event contained a rich program full of presentations, interactive panels, networking events and a field tour to Domtar's operational sites all while facilitating meaningful dialogue, knowledge exchange, and relationship-building in the spirit of forest adaptation and resilience.

THANK YOU FOR COMING!

Thank you to everyone who took the time to attend our 4th Annual General Meeting in Sherbrooke, Quebec! It was a great success and had the most impressive turn out yet! This year in at

This three-day event will serve as Silva21's fourth Annual General Meeting (AGM). The AGM aims to provide an opportunity for researchers, HQP and partners to meet and get to know each other, as well as:

- Give an overview of the ongoing program of work at each research theme and hub
- Present projects and results developed for each research theme and hub
- Share outcomes between universities, governments, and industrial partners
- Allow partners to provide feedback about how projects may help adapt silviculture to changing realities

This year was in special collaboration with

SUSTAINABLE FORESTRY INITIATIVE
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This year's event wouldn't have been possible without funding from the Sustainable Forestry Initiative. This collaboration is part of their work to advance climate smart forestry across Canada, supported by Environment and Climate Change Canada. Learn more at forests.org.

1.0 RESEARCH PRESENTATIONS & PROJECT UPDATES

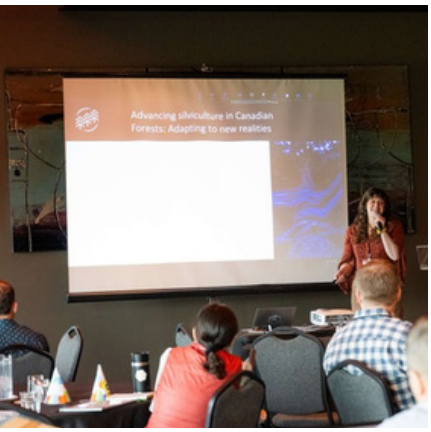
Across multiple sessions, Silva21's HQPs (MSc students, PhD students and candidates, postdoctoral fellows and research associates) presented ongoing projects that explored the project's three research themes of Observe, Anticipate and Adapt including presentations focused on:

- Remote sensing and near-real-time disturbance monitoring
- Growth modeling under future climate scenarios
- Assisted migration and silvicultural trials
- Forest structure and resilience mapping

These sessions reflected a commitment to interdisciplinary, data-driven research tailored to regional realities across Canada's forest ecosystems.

To begin the events, Silva21 traditionally invites a provincial representative from where the AGM is taking place to set the stage of adaptive silviculture of the province. For the province of Quebec, Dr Nelson Thiffault (Ing. F., PhD, Research Scientist, Natural Resources Canada) welcomed the group with the first presentation "Highlighting Research in Quebec". His presentation provided an overview of silviculture and forest research initiatives throughout the province and included:

- An overview of Québec's bioclimatic classification system, which underpins ecological forest management.
- The province's forest science research ecosystem which emphasizes the collaborative and applied nature of forest research in the province.
- Examples of past and ongoing silviculture research, including site preparation techniques, species selection trials, assisted migration studies, and the integration of new tools and infrastructure (e.g., ASCC, ThiRST, TransX) to support experimental forestry.
- Quebec's involvement in large-scale research networks like DREAM and DIVERSE, which are fostering innovation in adaptive silviculture across Canada.



Another important presentation we wanted to highlight at the beginning of the event was a social science project by Dane Pedersen (PhD candidate, UBC, project AD5a: *Deliberative-analytic framework to engage publics and stakeholders*). Her project and presentation, titled *Seeing the forest through the trees: Collaborative governance in Quesnel, British Columbia* serves to remind those working in the field of forestry and management to think about larger perspectives and worldviews that influence the decision making process and thus the role that forests play in the world.

Next, to introduce each subset of presentations over the three days, postdoctoral fellows from the University of British Columbia (UBC) provided an overarching presentation of each of Silva21's research themes; observe, anticipate and adapt - to refresh the audience of the context of these research themes. These presentations included an introduction to the ongoing research that has been completed or is ongoing, as well as continued challenges and opportunities for the future of Silva21 and beyond.

1.1 Observe

To lead us into the presentations Introduction to Observe theme, Dr Chris Mulverhill (Postdoctoral fellow, UBC, project OB 5a: Continuous forest inventory framework) introduced how Silva21 is collecting data using innovative tools to assess the growth and vigor of trees to allow for more flexible and adaptive management strategies in the face of climatic stresses and disturbances. The following were the HQP presentations that followed. Click the links to read more about their projects and see their current publications and copies of their presentations. If you have questions about the content you saw, feel free to contact them.

	HQP & Affiliation	Research Project	Presentation
	Liam Irwin, PhD candidate, University of British Columbia (liamkirwin@gmail.com) Supervisor: Nicholas Coops; Partners: Ontario MNRF	Project OB2: Advanced remote sensing: free-to-growth to thinning stage (Hubs: Romeo Malette, ON; Quesnel, BC)	Drone-based assessment of commercial thinning. View here.
	Madison Brown, MSc student, University of British Columbia (madib98@student.ubc.ca) Supervisor: Nicholas Coops	Project OB5c: The impact of non-stand replacing disturbance within near real-time context (Hub: Quesnel)	Detecting and characterizing non-stand replacing disturbance (NSR) using moderate resolution satellite imagery and LiDAR in a continuous context. View here.

	HQP & Affiliation	Research Project	Presentation
	Spencer Shields, MSc student, University of British Columbia (spenshi@student.ubc.ca) Supervisor: Nicholas Coops; Partner: JDIrving	Project OB5b: Satellite data for near-real time disturbance attribution (Hubs: East focus)	Detecting non-stand replacing forest disturbances using normalized PlanetScope data. View here.
	Fatemeh (Shaya) Gholami, PhD candidate, Université Laval (Fatemeh.gholami.1@ulaval.ca) Supervisor: Alexandre Morin-Bernard	Project OB7: Characterization of regeneration failure in the Canadian boreal forest using satellite imagery and airborne laser scanning data (Québec hubs)	Investigating the expansion of open canopy stands in managed boreal forests of Canada. View here.
	Tommaso Trotto, PhD candidate, University of British Columbia (tommaso.trotto@ubc.ca) Supervisor: Nicholas Coops; Partners: Quebec MFFP	Project AD2: Learning from the past: key stand attributes linked with resilience (Hub: All)	Characterizing landscape configuration effects on spruce budworm infestations. View here.

1.2 Anticipate

To introduce the theme of Anticipate, Dr Amy Wotherspoon (Postdoctoral fellow, UBC, project AN 1b: Future climate envelopes) reviewed how the world's climate reality is changing and ways in which we can synthesize the multiple risk of disturbances that forest face, including using new technologies and strategies and to improve growth models and prediction methods. The following were the HQP presentations that followed. Click the links to read more about their projects and see their current publications and copies of their presentations. If you have questions about the content you saw, feel free to contact them.

	HQP & Affiliation	Research Project	Presentation
	Sébastien Dumont, PhD student, Université Laval (sebastien.dumont.2@ulaval.ca) Supervisor: Alexis Achim	Project AN1e: Impact of acute climatic events on tree growth (Hubs: all)	Vulnerability of boreal tree species to spring and summer droughts. View here.
	Chloe Larstone-Hunt, MSc student, University of New Brunswick (chloe.larstonehunt@unb.ca) Supervisor: Loïc D'Orangeville; Partner: JD Irving	Project AD3c: Rainfall exclusion experiment: the effect of thinning (Hubs: Black Brook)	Can Neighbourhood Crowding Reduce White Spruce Drought Stress in New Brunswick? View here.

	HQP & Affiliation	Research Project	Presentation
	Meghan Clayton, MSc student, University of Alberta (mclayton@alberta.ca) Supervisor: Brad Pinno; Partner: Ontario MNRF	Project AD1b: Revising existing trials II (Hubs: all)	Assessing the structural diversity across silvicultural intensities on habitat suitability for woodland caribou (Rangifer tarandus caribou) in Ontario. View here.
	Catherine Beaulieu, PhD candidate, Université Laval (catherine.beaulieu.14@ulaval.ca) Supervisor: Alexis Achim; Partners: Kruger Inc.	Project AN9: Flexibility in forest management to preserve caribou habitat (Hub: Newfoundland)	Flexibility in forest management to preserve caribou habitat. View here.

1.3 Adapt

To welcome researchers under the Adapt theme, Dr José Riofrio (Postdoctoral fellow, UBC, project OB7: Climate-sensitive growth modeling in Ontario) discussed different ways in which Silva21 is fine tuning growth and yield modeling that utilizes the most up to date climate projections and growth and mortality variables, as well ways of testing innovative silvicultural treatments as forest management strategies to the new socioeconomic reality. The following were the HQP presentations that followed. Click the links to read more about their projects and see their current publications and copies of their presentations. If you have questions about the content you saw, feel free to contact them.

	HQP & Affiliation	Research Project	Presentation
	Christina Howard, PhD candidate, University of British Columbia (christina.howard@alumni.ubc.ca) Supervisor: Bianca Eskelson; Partners: Quebec MFFP	Project AN3a: Integration of climate drivers into growth modeling (Hubs: Eastern Townships, QC)	Climate Sensitive Growth Modeling of Québec Tree Species. View here.
	Jamie Ring, MSc student, University of British Columbia (Jamie.Ring@novascotia.ca) Supervisor: Bianca Eskelson; Partners: Quebec MFFP	Project AN3b: Integration of climate drivers into growth modeling (Hubs: Nova Scotia)	Integration of Climate Drivers into Tree-list Growth Modelling in the Acadian Forest Region. View here.
	Helin Dura, PhD student, Université Laval (helin-subhi.dura.1@ulaval.ca) Supervisor: Alexis Achim; Partner: Canadian Wood Fibre Centre	Project AN8a: Forest management plans for resilience landscapes (Hubs: all; east focus)	Forest economic potential under adaptive silviculture and climate uncertainties. View here.

HQP & Affiliation	Research Project	Presentation
 Adelin Nicorescu, PhD student, University of British Columbia (adelin.nicorescu@ubc.ca) Supervisor: Dominik Roeser; Partner: FPInnovations	Project AN6b: Thinning as a tool to increase resistance to stressors (Hubs: Quesnel)	Predictive model for thinning operations. View here.
 Mario Stolz, MSc student, University of British Columbia (mstolz@student.ubc.ca) Supervisor: Dominik Roeser; Partner: Future of Forestry Think Tank (BC)	Project AD3b: Using state-of-the-art technology to achieve multiple forest management objectives (Hubs: Quesnel)	Using state of the art technology to achieve multiple forest management objectives. View here.

2.0 CAREER SPEED DATING

Held on Tuesday, April 29, the AGM Career Speed Networking event offered graduate students a unique opportunity to engage directly with professionals across the forestry sector including government researchers, industry leaders, academic faculty, Indigenous partners and NGO representatives.

A brief talk by Sandrine Paquin, a recent MSc graduate under the supervision of Alexis Achim at Université Laval (Project AD 5b: Climate change and adaptive silviculture: playing to collaborate with a serious game), described her experience within the Silva21 project and how collaborating with interdisciplinary partners helped her build her skill set. She now uses those skills everyday in her job as regional coordinator for harmonization and social acceptability at Québec's Ministry of Natural Resources and Forests in the Laurentiens region.

Structured in rotating six-minute rounds, this interactive session facilitated over 30 one-on-one conversations, helping participants explore diverse career pathways, ask candid questions, and build connections beyond their academic networks. Professionals shared insights on daily work, required skills, work culture, and career progression, while students introduced their research and career aspirations. The event successfully promoted informal mentorship and knowledge-sharing across sectors, helping bridge the gap between research training and career opportunities in climate-smart forestry.

3.0 SILVA21 + SFI JOINT EVENT: Putting research into practice

As a central feature of the AGM, Silva21 partnered with the Sustainable Forestry Initiative (SFI) for a full day of programming dedicated to advancing the translation of research into actionable, climate-smart forestry and fire resilience strategies. SFI is an independent, non-profit organization that provides supply chain assurances and supports conservation outcomes through forest certification..

SFI Chief Conservation Officer, Lauren T Cooper, set the stage providing an overview of the SFI Forest Management Standard objectives - two of which are Climate Smart Forestry and Fire Resilience - and an overview of the SFI Climate Smart Forestry Initiative , a project backed by Environment and Climate Change Canada's Nature Smart Climate Solutions Fund, and which provided support for the 3-day event.

3.1 Panel 1: Climate Smart Forestry

The Climate Smart Forestry panel was moderated by Francesco Cortini, SFI Director of Conservation, Research and Practices, and featured HQPs from Silva21, as well as a representative from industry and Indigenous communities. As the newly appointed Canada Research Chair in Silviculture Adapted to Climate Change, Dr Alexis Achim (Université Laval) introduced the topic with framing on how to explore approaches to forest management under changing climate conditions.

Panel presentations began with Florence Leduc (PhD candidate, Université Laval, project AN 1c: *Impact of climate change on growth of commercial forest species in Nova Scotia*) presenting innovative research integrating dendrochronology and remote sensing to monitor forest productivity across spatial and temporal scales. João Paulo Czarnecki de Liz (PhD candidate, Université Laval, project AN5: *Targeted assisted migration*) showcased spatial distribution modeling to identify future-suitable habitats for species like *Quercus macrocarpa,* contributing to more precise assisted migration strategies. Jacob Ravn (PhD candidate, University of New Brunswick, project AN 9b: *Assisted migration trials: early response*) highlighted results from the TransX experiment, addressing knowledge gaps in species selection and seed transfer guidelines for assisted migration. Lisa Han (PhD student, University of Toronto, project AD 10: *Adaptive silviculture for climate change (ASCC) trail*) shared insights from the Adaptive Silviculture for Climate Change (ASCC) project at Petawawa Research Forest, emphasizing practical silvicultural trials to test ecosystem resilience under future climate conditions

From an industry perspective, Samuel Bourque (Domtar) outlined how Domtar is implementing real-time data systems, hybrid vehicle technology, and biodiversity initiatives to operationalize climate-smart practices. The panel concluded with Geneva Keijck (Grand Council Treaty #3), who powerfully emphasized Indigenous-led climate stewardship guided by Manito Aki Inakonigaawin and Treaty rights. The session was summarized by Dr Amy Wotherspoon (Postdoctoral fellow, UBC, project AN 1b: Future climate envelopes) outlining the need for integrated science, respectful knowledge co-production, and scalable, field-ready solutions in climate-smart forestry.

A copy of the panel slide deck presentations can be found here. Note that not all presenters had slides.

3.2 Panel 2: Fire resilience

The fire resilience panel was hosted by Greg Cooper, SFI Director of Conservation Implementation and began with an introduction by Dr Nicholas Coops (UBC) discussing the cutting-edge remote sensing approaches currently used to managing forest landscapes under increasing fire pressure.

To bridge the gaps between a changing climate, as discussed in the previous panel, to the development of climate-sensitive timber supply models, Kirk Johnson (PhD student, UBC, project AN 8b: Viability of climate-informed, landscape-level strategies) showed how these can be integrated to assess fire risk and growth responses to climate scenarios in British Columbia's Quesnel Timber Supply Area. Rover Liu (Research Associate, UBC, project AD3a: Silvicultural scenarios to promote resilience stand structures) discussed operational-scale commercial thinning trials that incorporate biomass utilization and fuel reduction strategies in lodgepole pine forests, showing promising outcomes for both fire mitigation and economic viability.

Sarah Smith-Tripp (PhD candidate, UBC, project OB 1a: Regeneration after catastrophic disturbance) presented remote sensing research that identifies post-fire recovery trajectories in the sub-boreal zone, enabling more targeted interventions to prevent reburn and promote regeneration. From an Indigenous perspective, Klay Tindall from the Lil'wat Forestry Ventures LP gave an overview of how such methods are currently being implemented on small areas of Indigenous lands with an outstanding positive effect that is growing the demand for their business. Dr Chris Mulverhill (Postdoctoral fellow, UBC, project OB 5a: Continuous forest inventory framework) concluded the panel by framing wildfires as a growing ecological and policy challenge, emphasizing the urgent need for integrated, adaptive management solutions. Collectively, the panel underscored the importance of proactive, scalable, and landscape-level strategies to support fire-resilient forestry in a rapidly changing climate.

A copy of the panel slide deck presentation can be found here. Note that not all presenters had slides.

3.3 Roundtable & breakout discussions: key themes & insights

To continue dialogue on topics of climate smart forestry (CSF) and fire resilience (FR), an engagement session allowed participants to explore how climate-smart forestry and fire resilience can be informed by research and co-developed across diverse knowledge systems.

Participants were spread out amongst 12 tables with 6 tables per topic (CSF or FR) and given two rounds of guiding questions to discuss. These questions focused on building collaborative networks, integrating Indigenous knowledge, and ensuring operational feasibility in forest adaptation strategies. In the first round of guiding questions, tables were given three broad questions:

1. How can researchers, private entities, governments, Indigenous entities (communities and businesses), and NGOs better collaborate to create real, lasting change for forest management with climate benefit?
2. How do we ensure that climate-smart practices are not only scientifically sound but also operationally practical for large scale forest decision-makers?
3. Who is missing from these conversations that needs to be part of building climate-informed/fire resilient futures?

As a note taker from each table was taking notes on a live, shared document, discussion points from each table were being entered into AI software to summarize each table's conversations. Based on the discussion notes, three more specific questions were given for each CFS and FR topic.

3.3.1 Key takeaways from Climate Smart Forestry discussion

Based on discussion from each of the six tables, the following questions were generated using AI to guide more specific discussions.

Building collaborative networks for forest management.

- **Key idea:** The importance of forming strong, multi-stakeholder partnerships across diverse groups (researchers, governments, industry, Indigenous communities, and NGOs) for sustainable forest management with climate benefits

Integrating Indigenous Knowledge and ethical frameworks into climate-smart forestry.

- **Key idea:** The incorporation of Indigenous knowledge systems alongside scientific research to inform climate-resilient forest management strategies, while respecting ethical considerations and reconciliation.

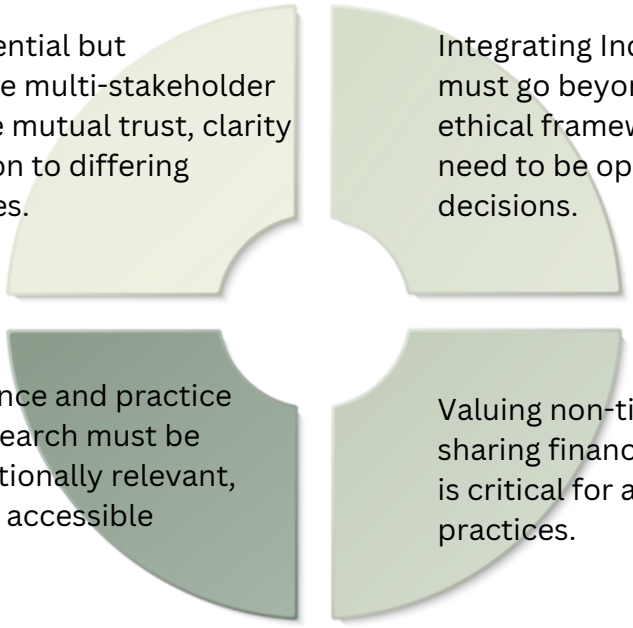
Bridging the gap between scientific research and practical implementation.

- **Key idea:** Translating scientific knowledge into actionable, practical solutions for large-scale forest decision-makers, ensuring the feasibility and applicability of climate-smart practices on the ground

Summary of the main discussion points:

Collaboration is essential but challenging: Effective multi-stakeholder partnerships require mutual trust, clarity in roles, and attention to differing institutional timelines.

Integrating Indigenous Knowledge must go beyond acknowledgment - ethical frameworks and reconciliation need to be operationalized in forestry decisions.



The gap between science and practice remains a barrier. Research must be field-validated, operationally relevant, and communicated in accessible formats.

Valuing non-timber benefits and sharing financial risks among partners is critical for advancing innovative practices.

Proposed Solutions Included:

- Developing structured, long-term partnerships.
- Creating roles for knowledge carriers and interdisciplinary actors.
- Enhancing student training in communication and applied forestry.
- Leveraging certification systems to drive change.

3.3.2 Key takeaways from fire resilience discussion

Bridging science, practice, and policy for scalable fire resilience

- **Key idea:** There's a need for validation of scientific models on the ground and for adjusting scientific ambitions to operational realities (e.g., cost, timeframes, infrastructure). Tools like knowledge dissemination platforms, fire breaks based on cultural knowledge, and meta-analyses of fire science were suggested to bridge these gaps.

Building equitable, long-term, and inclusive collaborations

- **Key idea:** Collaborations must reflect the cultural values of communities (e.g., cedar and yew in replanting), be sustained beyond short project cycles, and include real influence from diverse voices. There's a call for liaisons, knowledge brokers, and better integration of Indigenous-led monitoring, data ownership, and decision-making.

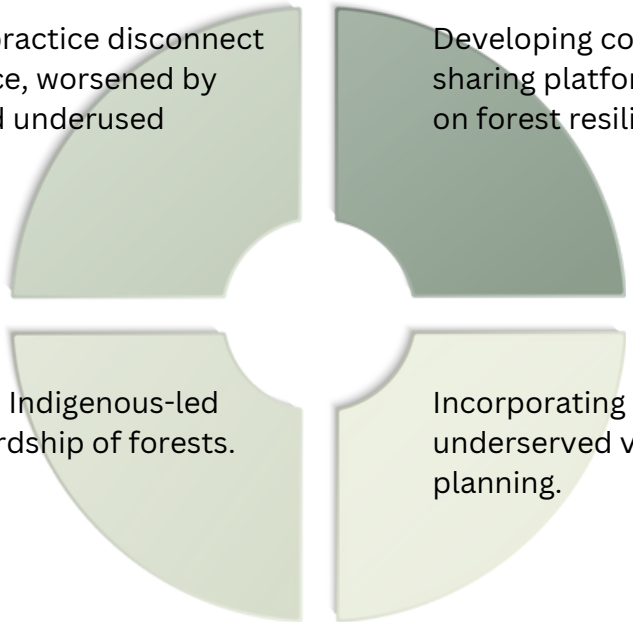
Rethinking who is at the table and what knowledge counts

- **Key idea:** There was concern that many current forest resilience frameworks overlook important non-economic values (e.g., mental health, cultural knowledge, recreational access). Many stakeholders - especially in remote or underserved communities - face real barriers to engaging in current processes and knowledge-sharing platforms

Summary of the main discussion points:

A major science-to-practice disconnect exists in fire resilience, worsened by fragmented data and underused research findings.

Developing consistent knowledge-sharing platforms across jurisdictions on forest resilience.



Supporting long-term, Indigenous-led monitoring and stewardship of forests.

Incorporating public health, youth, and underserved voices into resilience planning.

Proposed Solutions Included:

- Investing in pilot projects and demonstration trials on forest type specific adaptation and mitigation.
- Supporting long-term, Indigenous-led monitoring and stewardship of forests.
- Developing consistent knowledge-sharing platforms across jurisdictions on forest resilience.
- Incorporating public health, youth, and underserved voices into resilience planning.

3.4 Panel 3: Translating research into practice

A concluding panel with Silva21 Principle Investigator Dr Alexis Achim (Université Laval) and co-lead Dr Nicholas Coops (University of British Columbia) and facilitated by Lauren T Cooper synthesized ideas into priority actions. Participants agreed on the need for:

- Better institutional mechanisms to align research design with operational realities.
- Expanded metrics for success that include social, cultural, and ecological outcomes.
- Funding models that support long-term implementation, not just short-term innovation.

This joint event exemplified Silva21's core mission: to foster collaborative, inclusive, and applied research that meets the urgent challenges of climate change in Canadian forestry. It reinforced that translating research into practice requires not just better science, but better relationships, communication, and shared vision.

The day closed with a well-attended poster session and networking reception, sponsored by Domtar and SFI.

4.0 VISITING DOMTAR AND HIGHLIGHTING WABANAKI STEWARDSHIP

The final day of the 2025 Silva21 AGM featured a half-day field tour to three forest sites managed by Domtar, a Silva21 industry partner and one of North America's leading producers of paper-based products.

Before heading to the field, Domtar's Eric Lapointe gave a presentation highlighting one of the company's most productive mills; The Windsor Mill. This mill, part of its paper and packaging division, has been an important part of the integrated forest-industry operations in Québec for over 160 years.

As the largest fine paper complex in Canada, the mill employs over 4,000 people (directly and indirectly) and processes 1.7 million m³ of pulpwood annually, making it Québec's top pulpwood user, particularly from private forests. Throughout his presentation Mr Lapointe also highlighted:

- **Sustainable forest management** on Domtar's private lands, which have been continuously SFI-certified for 20 years and support a wide range of land uses and research.
- **Innovative circular economy practices**, such as using mill residuals for steam and electricity, ash for soil amendment in maple stands, and sludge for hybrid poplar plantations.
- **Afforestation and forest intensification projects**, including multi-species plantations near local communities, with social acceptability and biodiversity monitoring as guiding principles.
- **Remote sensing innovations**, including enhanced forest inventory and productivity modeling using airborne LiDAR.
- **A commitment to reducing the carbon footprint** across its wood supply chain (spanning multiple provinces and U.S. states) and ongoing collaborations through Silva21 and other partnerships

With this introduction to Domtar in mind, we then headed onto the bus and into the field! This carefully curated tour, organized with the help of Eric Lapointe (Domtar) and Lukas Olson (UBC) highlighted how applied research informs forest operations and fosters adaptive silviculture in a changing climate.

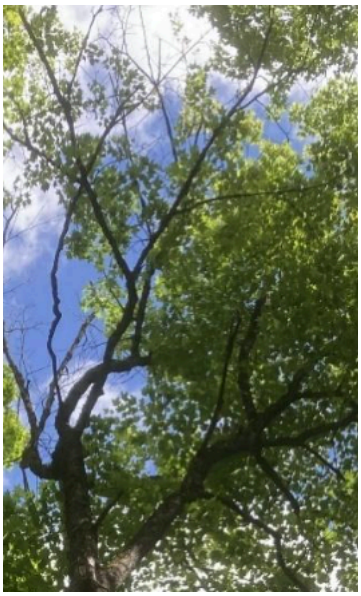
4.1 Stop 1: Crown dieback assessment and drone applications

The first stop of the field tour demonstrated a newly developed stem classification system for sugar maple stands. The system, grounded in crown dieback assessment developed by Dr Guillaume Moreau (Université Laval), helps forest managers identify low-vigour yet high-quality trees that should be prioritized for harvest during partial cuts - an approach that both increases stand vigour and improves harvest profitability for sugar maple and yellow birch.

A major innovation highlighted at this stop was the use of drone-based photogrammetry to rapidly and reliably estimate crown dieback across stands - a Masters project taken on by Lukas Olson under the supervision of Nicholas Coops at the University of British Columbia (Project OB6: New technologies for measurements within stands). This practical application of high-resolution aerial imagery is revolutionizing forest diagnostics, allowing managers to make better-informed decisions about stand health and harvest selection. Lukas demonstrated this by showcasing a small first-person view drone for photogrammetric reconstruction of individual trees to access canopy metrics.

An additional in-field drone demonstration led by Dr Alexandre Morin-Bernard (Université Laval) showcased the DJI M300 how remote sensing technologies are increasingly central to the integration of science, data, and operational forestry. In Silva21 AGM tradition, we put the drones to the test by capturing out the AGM attendees spelling out ‘Silva21’ with their bodies!

4.2 Stop 2: Long-term commercial thinning trials



At the second stop, Steve Bédard of Québec's Ministère des Ressources naturelles et des Forêts (MRNF) guided participants through an experimental thinning site. Established in 2009, this long-term study evaluates the effects of different thinning intensities on stand growth, tree quality, and resilience in even-aged sugar maple and yellow birch forests.

Findings from the study have critical implications for both climate adaptation and economic outcomes. Notably, plots treated with both thinning and soil amendments exhibited improved vigour and potential for structural diversity - key components of resilient forest systems under global change scenarios. This stop highlighted the value of long-term silvicultural trials as platforms for adaptive experimentation and evidence-based management.

4.3 Stop 3: Wabanaki Nation and black ash stewardship

The final site was presented by Laurence Boudreault, who recently completed her PhD under the supervision of Alexis Achim at Université Laval (Project AD 6: Culturally important species) and is now the forestry project manager at the Ndakina Office for the Wabanaki Nation. Laurence's research and site presentation discussed the cultural and ecological significance of black ash (Fraxinus nigra) for the Wabanaki Nation. As a vital species for Wabanaki basketry and cultural practices (and now highly threatened by the emerald ash borer) black ash is a focus of Indigenous-led climate adaptation and conservation efforts.

Participants learned about the Wabanaki Nation's territorial forestry approach, which integrates traditional knowledge, cultural practices, and scientific monitoring to sustain ecosystem functions and Indigenous sovereignty. The visit offered a powerful reflection on the role of co-created knowledge and Indigenous leadership in sustainable forest management and emphasized the need to align forest science with diverse values and relationships to land.

4.4 Field tour reflections

Across all three sites, the field tour provided a rare opportunity to observe research implementation in real-world forestry contexts. It illustrated how innovative silvicultural strategies ranging from drone-based diagnostics to soil-enhanced thinning trials and culturally grounded species conservation, can work together to promote forest resilience, operational efficiency, and meaningful reconciliation.

5.0 AGM EMERGING THEMES & TAKEAWAYS

Presentations and the field tour over the three days of this event emphasized the importance of interdisciplinary research teams, innovative practices and data-driven research as the key to advancing adaptive silviculture. Real-time data and technological innovation are transforming forest inventory, monitoring, and planning whereas knowledge mobilization remains a priority, especially as research informs operational and policy-level decision-making.

The AGM underscored Silva21's commitment to fostering a national research network rooted in equity, co-learning, and long-term impact. From early-career researchers to senior scientists, all voices contributed to a richer understanding of the challenges and possibilities of silviculture in a rapidly changing climate.

6.0 ACKNOWLEDGEMENTS

Silva21 extends its sincere thanks to all presenters, panelists, moderators, and facilitators who took part in this year's event. We thank our Indigenous partners, including the Wabanaki Nation who has been an invested partner with Silva21 since the project's beginning and on whose traditional lands this event took place. We thank SFI and Domtar for their generous support and making this event possible. And a special thank you to those involved in organizing this event from both teams within Silva21 (Amy Wotherspooon) and SFI (Lindsay Douglas, Rachel Hamilton, Madhuri Jani, Francesco Cortini, Greg Cooper).

7.0 NEXT STEPS

Survey and feedback collection: Please complete our post-event survey to gather input and improve future AGMs.

Knowledge dissemination: Presentations, photos, and recordings (where available) will be posted to www.silva21.com/agm.

Continued collaboration: Research coordination and knowledge exchange will continue across Silva21 hubs and partner organizations throughout 2025–2026. To remain up to date with their latest news, publications and collaborations sign up for their mailing list at www.silva21.com.

the latest results from Silva21

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