

2025 SFI CONSERVATION IMPACT WORKSHOP SUMMARY

KEY POINTS

- ~ 70 individuals (online and virtual) participated in the 2025 SFI Conservation Impact Workshop held in Minneapolis, Minnesota.
- SFI hosted four expert panelists from academia, the forest sector, and non-profit organizations who presented on various Climate Smart Forestry approaches.
- Participants offered suggestions related to 4 themes that will be transformed into SFI Climate-informed Principles and Practices (CLIPPs).

BACKGROUND

The Sustainable Forestry Initiative (SFI) is an independent, non-profit organization that provides supply chain assurances, delivers conservation leadership, and supports environmental education and community engagement. SFI collaborates with various stakeholders, including the forest and fiber sourcing sector, brand owners, conservation groups, resource professionals, landowners, educators, local communities, Indigenous peoples, governments, and universities. SFI standards and on-product labels help consumers make responsible purchasing decisions.

The SFI Conservation Pillar advances conservation objectives in forests throughout the U.S. and Canada through the values expressed in our standards, through carefully targeted research, through direct leadership of critical initiatives, and through partnerships that effectively contribute to multiple conservation objectives.

The Conservation Impact “Sounding Board” was formed in 2016 to harness and focus the community of partners engaged in or seeking to inform the SFI Conservation Impact Project work, and to help SFI identify specific pathways to clarify and enumerate the conservation contributions of managed forests. The Sounding Board had an “open-door” policy with an informal structure to facilitate the broadest engagement; in this way, it shaped our Conservation Impact Project work and promoted interaction directly between project leaders and experts from a diversity of backgrounds. The Sounding Board helped to ensure the credibility of the science and resonance of results with key audiences.

To continue the legacy of the Sounding Board, the SFI Conservation Pillar hosted a Conservation Impact Workshop in conjunction with its Annual Conference in May 2025. Approximately 70 participants attended, including representatives from SFI certified organizations, local and regional conservation organizations, and SFI staff. In addition to those in attendance, participants were able to join the panel session online.

The purpose of the workshop was to advance a technical discussion on practical climate-related interventions and available resources for responsible forest management.

The workshop was divided into two parts:

PART I: GROWING INNOVATIVE CLIMATE SOLUTIONS

Part I included expert speakers on various applications of evolving management practices and data that can support alignment with Climate Smart Forestry (CSF) – now an objective within the SFI Forest Management standard.

Below is a summary of the speaker presentations and panel discussion to recap key themes and insights from the session.

Welcome & Introduction to SFI Conservation Impact Workshop

Lauren Cooper – Chief Conservation Officer, Sustainable Forestry Initiative

- Outlined the SFI Climate Smart Forestry Initiative (SFI CSF Initiative) and emphasized that CSF is not separate from the SFI Standard but fully integrated with other priorities like fire resilience, biodiversity, and forest health.
- Introduced two major regranting programs in the U.S. and Canada that support Indigenous partnerships and regional pilot projects.
- Encouraged attendees to contribute insights during breakout sessions to help shape future programming and knowledge products.



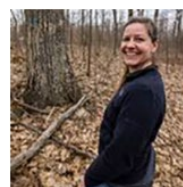
Lauren Cooper
Chief Conservation Officer
Sustainable Forestry Initiative



Modeling Climate-Smart Forestry Practices in Minnesota

Kendall DeLyser – Senior Director, Forest Climate Science, American Forests

- Shared modeling results from a 7-state carbon scenario project, showcasing Minnesota as a case study.
- Findings showed that Minnesota's forests are projected to remain a carbon sink through 2100 under all scenarios.
- Identified practices that could further increase carbon storage—up to 39% more by 2100—including reforestation, climate-adapted silviculture, and reducing forest loss.
- Proposed four draft principles for CSF in Minnesota: continue sustainable forest management, maintain and expand forest area, adapt to climate impacts, and promote longer lived wood products.



Kendall DeLyser
Senior Director, Forest Climate Science
American Forests



Adaptive Silviculture for Climate Change Network

Dr. Linda Nagel – Dean and Professor, Utah State University

- Presented the [Adaptive Silviculture for Climate Change \(ASCC\)](#) network, which includes 14 collaborative experimental sites across the United States and Canada. At each site, management approaches include resistance, resilience, and transition strategies.
- Highlighted the **Cutfoot Experimental Forest** in Minnesota, which is implementing silvicultural strategies that include strategies that build resistance and resilience to climate change in addition to a transition strategy that incorporates climate-adaptive planting of both native and novel species.
- Linda noted that **assisted migration has become a key theme across sites**, particularly in transition treatments.
- A key takeaway is the importance of silviculture demonstration sites in translating climate adaptation science into on-the-ground practices.



Dr. Linda Nagel
Dean and Professor
Utah State University



Codifying and Registering Climate Smart & Exemplary Forestry in New England

Bob Perschel – Senior Advisor, New England Forestry Foundation (NEFF)

- Introduced [Exemplary Forestry](#), NEFF's model for balancing climate mitigation, habitat protection, and timber production.
- Modeling showed that changing forest management could help meet 30% of New England's climate targets. Maine can increase carbon sequestration by 20% while maintaining current harvest levels.
- Described NEFF's collaboration with industrial landowners and architects to define and incentivize climate-smart practices in both forest management and construction including mass timber utilization.



Robert Perschel
Senior Advisor
New England Forestry Foundation



Planning for the Unexpected

Sean Ross – Managing Director, The Lyme Timber Company

- Highlighted the operational challenges of forest management amid climate-related disruptions like warm winters and extreme rain events.
- Emphasized the critical importance of forest infrastructure—roads, loggers, trucking, and mills—for delivering climate-smart outcomes.
- Shared examples of proactive investments in workforce stability and site planning (e.g., stand rankings based on access and wetness).
- Framed operations as a core pillar of effective CSF implementation.



Sean Ross
Managing Director
The Lyme Timber Company



Panel Highlights

Moderator: Greg Cooper, Director, Conservation Implementation, Sustainable Forestry Initiative

A panel discussion moderated by Greg Cooper followed the presentations, offering a chance to reflect on cross-cutting themes. Panelists answered questions from the moderator and audience submissions. Highlights included:



Greg Cooper
Director, Conservation Implementation
Sustainable Forestry Initiative



- **Collaboration Across Sectors:** Strong interest in deepening engagement between conservationists, landowners, builders, and policymakers. Trust and transparency are critical.
- **Investor Alignment:** Climate adaptation and diversity are increasingly seen as **long-term investment strengths**, not just conservation goals.
- **Data and Planning:** State forest action plans are useful, but more detailed operational data is needed to guide modeling and landowner decision-making.
- **Scaling Science to Practice:** The ASCC model demonstrates the power of **on-the-ground experiments**, but more work is needed to assess economic viability.
- **Incentives Over Regulation:** For industrial forest owners, **voluntary programs with strong incentives** are more effective than regulatory approaches.



PART II: COLLABORATING ON CLIMATE: ENGAGEMENT SESSION

Moderator: Dr. Francesco Cortini, Director Conservation Research and Practices, Sustainable Forestry Initiative

This interactive engagement session focused on the development of climate-informed practices for forest management moderated by Dr. Francesco Cortini.



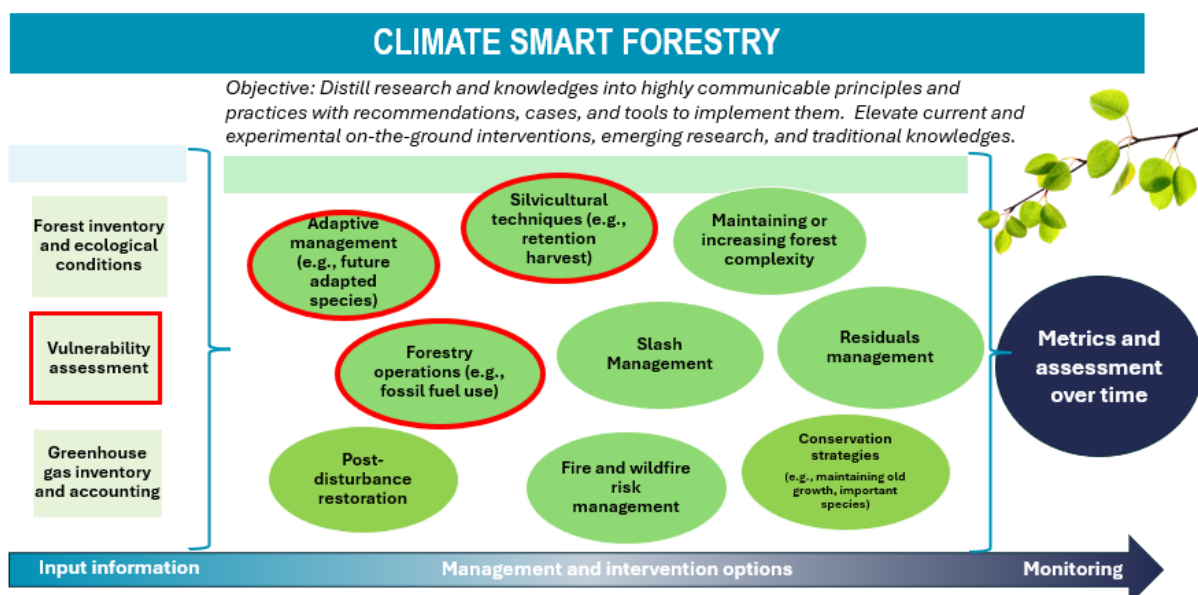
Dr. Francesco Cortini
Director, Conservation, Research and Practices
Sustainable Forestry Initiative



Goals for the session were to:

- **Enhance knowledge** on the availability of forest and climate data applications towards Sustainable Forest Management.
- **Learn about Climate Smart Forestry** objectives in the SFI Forest Management standard.
- **Contribute perspectives** on Climate Smart Forestry topics to support continual improvement of conservation outcomes of SFI standards.

SFI is developing Climate-informed Principles and Practices (CLIPPs) to inform climate smart forestry practices in relation to the SFI Forest Management Standard and used the engagement session to delve into four potential themes/topics.



See the table below for a brief description of the four focal topics selected from the current framing of Climate Smart Forestry by SFI.

FOCAL THEME	RATIONALE
Forest Inventory	Traditional inventories rely on field plots and aerial surveys for periodic measurements of species composition, diameter, height, and age. These data provide the baseline to support growth and yield models, ecological assessments, and forest health monitoring. Building on these foundations, new technologies are now enhancing the scope and precision of forest inventories. By incorporating climate change into growth projections, managers can better prioritize harvest decisions and the timing of management actions. This results in them being better positioned to respond to the fast-changing environmental conditions.
Vulnerability assessments	Vulnerability assessments inform forest planning and management. Vulnerability assessments usually include three components: • Exposure, or the extent to which a forest is exposed to climate change outside the range of natural variability, • Sensitivity, the ecological characteristics of a forest that make it sensitive to the changes it is exposed to, and • Adaptive Capacity, which is the ability of the forest to respond to changing conditions. These tools are being used to shape harvest scheduling, species selection, and infrastructure resilience. When assessments are paired with Indigenous and local knowledge, they become more than data—they become practical guides for building climate-resilient forests.
Forestry operations	Forestry operations in Canada and the U.S. are adapting to challenges caused by climate change while continuing to provide wood products, jobs, and essential ecosystem services. Climate Smart Forestry emphasizes operational practices that both reduce greenhouse gas emissions and increase forest resilience. This includes considering changes in seasonality and precipitation regimes as well as evaluating forest operation emissions. When planning for sustainable harvests, it is important to design transportation infrastructures that are resilient to changing and extreme weather events. Integrating climate considerations into daily operations is key to sustaining long-term productivity and carbon benefits.
Silviculture – Adaptive management	Climate change is having a negative effect on tree growth and survival. Shifting disturbance regimes are affecting the climate envelope where tree species can establish and survive. Adaptive silvicultural strategies consider the impacts of climate change to enhance forest resilience while maintaining productivity and biodiversity. This can involve the selection of tree species and practices suited to more uncertain environmental conditions by transitioning newly established forests to grow and survive in future conditions. The integration of Indigenous knowledge and local expertise also ensures that the silviculture activities are relevant and sustainable across North America.

Participants were asked to engage in conversation with their peers, led by the expert panelist and SFI staff, on each of the four topics. They were encouraged to discuss and answer three prompt questions about each of the topics. They were able to “upvote” a suggestion using dot stickers if it resonated with them.

Prompt questions discussed at each focal category in the 2025 Conservation Impact Engagement Session

What do we **know** and/or what is your **experience/practice** in relation to this CLIPP?

What are the **gaps** to address this CLIPP in terms of data, expertise, tools and resources?

What are some **next steps** or **actions** that SFI can take to advance this CLIPP? Who should we **collaborate** with?

RESULTS: FOREST INVENTORY

Question 1: What do we know and/or what is your experience/practice in relation to this CLIPP?

Participants shared that they commonly rely on federal and state or provincial inventory data and noted the potential of this data to inform climate-adaptive forest management through analogs and management prototypes. Time-series data was recognized as valuable for assessing changes over appropriate temporal scales. Long-term research, such as the Long-Term Site Productivity (LTSP) study, was cited as particularly useful for understanding soil and nutrient impacts under different forest management regimes.

Question 2: What are the gaps to address this CLIPP in terms of data, expertise, tools, and resources?

Key gaps include a need for better understanding how forest growth and yield models respond to adverse conditions and how these responses affect decisions, such as harvest timing. Participants raised concerns about the scale of investment needed to collect and manage data and emphasized gaps in areas such as soil carbon and data storage capacity. There were also concerns about the value added by new information, especially when it’s unclear how it informs decisions. Other barriers included sampling issues—such as long intervals, missing trends, and delays—and overall capacity limitations, including time, cost, and the need for experienced personnel and ground-truthing.

Question 3: What are next steps or actions that SFI can take to advance this CLIPP? Who should we collaborate with?

Participants recommended that SFI support partnerships that enhance small-area estimation using Forest Inventory and Analysis (FIA) data combined with remote sensing, in collaboration with organizations like NCASI, universities, and GSFS. There was a call to identify and leverage existing data, tools, and resources through collaboration with groups already active in this space. Participants also urged support for sustained or increased funding for USDA Forest Service FIA programs. Opportunities were highlighted to collaborate on forest inventory-carbon tools, such as through grants with the U.S. Endowment, and to tailor these tools across scales—from local to landscape. It was also recommended that SFI help build understanding of the limitations of inventory tools by region and species and promote

emerging technologies like LiDAR to improve data consistency. Lastly, there was interest in reviving cross-sector partnerships, such as disturbance response teams, to support implementation.

FORESTRY INVENTORY	SUMMARIZED RANKED COMMENTS
What We Heard	- Long term and appropriate time series data is valuable (e.g. Long Term Site Productivity study) - Federal and State/provincial datasets are foundational
Gaps and Barriers	- More work needed on soil carbon - There are capacity limitations in multiple dimensions (e.g. cost, time, experience, data storage) - Identifying what data is most strategic/valuable to inform decision making - Difficulty to plan for future inventory based on long timescale of research needed (e.g. forecasted adverse conditions, species composition changes, sampling issues in trend data)
Next Steps and Collaboration	- Identify existing data, tools, resources, and models but also recognize their limitations (e.g. regional, species, spatial scales) - Support partnerships (NCASI, USDA FS FIA, US Endowment, PSAE, Universities) and secure financial funding toward existing tools - Ensure relevancy of inventory, carbon, and modeling data to SFI certified organizations and at appropriate levels (own data, FIA, and Landscape scale) - Utilize new technology (e.g. LiDAR) for data consistency

RESULTS: VULNERABILITY ASSESSMENT

Question 1: What do we know and/or what is your experience/practice in relation to this CLIPP?

Participants emphasized that vulnerability assessments (VAs) are valuable tools for engaging decision-makers and securing buy-in for proactive forest management. However, they noted that uncertainty in VAs can limit confidence in adopting aggressive management responses. Effective communication—particularly using language accessible to diverse stakeholders—was highlighted as essential, especially when connecting assessments to current extreme weather events. There was also discussion around how vulnerability is framed, with a suggestion to focus not only on risks but also on opportunities to strengthen forest resilience.

Question 2: What are the gaps to address this CLIPP in terms of data, expertise, tools, and resources?

Participants identified several key gaps, including the need to better understand and support a broader range of users such as investors. They called for more synthesized and accessible outputs, including products similar to those developed by Northern Institute of Applied Climate Science (NIACS), and emphasized the need for simpler, more approachable tools to help users take the first step with VAs. Translating model outcomes into actionable decisions was cited as a major challenge, as model consensus alone is often insufficient for decision-making. Participants also highlighted the need for more robust sensitivity analyses and clearer connections between assessment results and management actions. Communicating the concepts of vulnerability and opportunity in ways that resonate across audiences was seen as a foundational need.

Question 3: What are next steps or actions that SFI can take to advance this CLIPP? Who should we collaborate with?

Participants suggested that SFI could support efforts to translate vulnerability assessments into best management practices and CLIPP strategies that address climate extremes. Advancing post-disturbance strategies and identifying site-specific conditions that signal high or low climate impacts, such as climate refugia, were also highlighted as important. There was a call to avoid oversimplification or prematurely labeling areas or species as “winners” or “losers” in climate adaptation. Finally, SFI was encouraged to convene a range of stakeholders—including investors—to foster shared understanding and collaboration around forest climate vulnerability.

VULNERABILITY ASSESSMENT	SUMMARIZED RANKED COMMENTS
What We Heard	• Basis for engaging decision-makers for proactive management • Communication tailored to different audiences to share vulnerability of forests • Uncertainty in VA hinder ability to determine management actions and their future forest impacts
Gaps and Barriers	• Gap in understanding of widening range of users of VA's i.e., investors • Difficulty translating model outputs into management actions • Need for synthesized, accessible outputs and increased sensitivity analyses • Lack of user-friendly tools and audience-appropriate communication
Next Steps and Collaboration	• Translate VA into best practices (e.g. extreme weather events, post-disturbance strategies) • Clearly identifying site conditions of high vs. low climate impacts (i.e., Refugia) and avoid oversimplified solutions • Provide cross-sector convening opportunities (e.g., investors, managers)

RESULTS: FORESTRY OPERATIONS

Question 1: What do we know and/or what is your experience/practice in relation to this CLIPP?

Participants emphasized that forest operations that utilize climate smart principles need to be economically viable, stressing the idea that “no markets mean no management.” Without financial incentives or strong domestic markets for wood products, participants expressed concern that necessary climate smart or climate-informed forestry activities won’t be feasible to implement. There was also a call for more disturbance-based management, as participants felt that overly passive approaches are harming overall and long-term forest health. Operational unpredictability was another theme, with climate change leading to unexpected conditions, such as reduced periods of frozen ground, which make harvesting more difficult.

Question 2: What are the gaps to address this CLIPP in terms of data, expertise, tools, and resources?

A primary concern was the long-term sustainability of logging infrastructure, particularly in the face of changing climate conditions and operational needs. Participants expressed the need for better guidelines

for winter harvesting, such as the development of an index or standardized metric to inform decisions rather than relying on guesswork. Resource-pooling models—like cooperatives to share consumables, tools, or temporary infrastructure—were suggested as ways to improve efficiency and resilience. Cost, equipment needs and changing ground conditions were all cited as ongoing operational challenges.

Question 3: What are next steps or actions that SFI can take to advance this CLIPP? Who should we collaborate with?

Participants recommended that SFI invest in operator and contractor training that meets people where they are and reflects real-world operational needs. Communication was also flagged as an area for improvement, with suggestions for workshops that help forestry professionals explain the everyday value of forest products in relatable ways. There was interest in framing disturbance not as a negative but as something forests require for health—messaging that could resonate more with both the public and practitioners. In terms of infrastructure, participants emphasized that roads, culverts, and similar elements should be seen as long-term investments, not short-term costs. Broadly, building public understanding and support for forestry operations was seen as essential to advancing climate-smart forestry.

FORESTRY OPERATIONS	SUMMARIZED RANKED COMMENTS
What We Heard	• Forestry must be economically viable and domestically demanded “No markets, no management” • Operational unpredictability is increasing due to climate change (e.g. lack of frozen ground conditions) • Understanding implications of forest preservation vs. active management
Gaps and Barriers	• Long-term sustainability and economic resources for logging infrastructure • Better guidelines for winter harvesting (indexing) • Need for pooled resources (e.g. Operator co-ops, equipment mixes, temporary bridges)
Next Steps and Collaboration	• Develop and deliver operator/contractor/ logger educational resources that meet their needs • Treat operational infrastructure as a long-term investment rather than a cost (e.g. road planning, culverts) • Host a communication workshop to help professionals promote value of wood products • Develop public support for forestry and greater communication about forest management (in respect to disturbance) that is relatable/understandable

RESULTS: SILVICULTURE – ADAPTIVE MANAGEMENT

Question 1: What do we know and/or what is your experience/practice in relation to this CLIPP?

The CIW attendees shared several key insights and examples from the field that illustrate their experience with climate-informed forestry practices. One major lesson is the importance of incorporating public values into forest management, as evidenced by a shift from clearcutting to shelterwood harvesting in some areas due to public input. Additionally, they emphasized that not all

forms of retention are equally effective, highlighting the difference between high grading (which can degrade forest quality), deferment strategies, and variable retention of acceptable growing stock that maintains ecological integrity.

These nuanced decisions illustrate an evolving understanding of how silvicultural techniques can align with climate-informed principles. However, the CLIPP (Climate-Informed Principles and Practices) framework is still quite new, and participants recognized that time and experience will be essential in refining best practices. Collaborative institutions such as forest silviculture cooperatives and universities have been instrumental in building knowledge, offering research support, and facilitating shared learning. Furthermore, resources like the Northeast Silviculture Library and case studies from organizations such as NIACS and CASC (Climate Adaptation Science Centers (CASC) have provided valuable examples and guidance. While progress is being made, ongoing experimentation and feedback from the field are necessary to realize the potential of this CLIPP approach.

Question 2: What are the gaps to address this CLIPP in terms of data, expertise, tools, and resources?

Several important gaps remain in implementing the CLIPP effectively, especially regarding data availability, cross-sector expertise, and long-term forecasting tools. There is a growing recognition that broader landscape strategies—such as agroforestry, multi-use land management, and silvopasture involving livestock—need more integration into climate-informed forestry, yet data and guidance on these approaches are limited. Variability in prescribed burning practices across jurisdictions also highlights a lack of consistency and coordinated knowledge, which can hinder climate resilience outcomes. A key ecological concern raised was whether focusing assisted migration solely on commercially valuable tree species could inadvertently exclude keystone species such as shrubs and grasses that support biodiversity.

Additionally, better predictive models and decision-support tools are needed to forecast climate impacts and species performance decades into the future, which is essential for reforestation planning today. The need for robust post-disturbance restoration guidance was also emphasized, as forest managers face increasing challenges from wildfire, pests, and extreme weather. Integrating Indigenous knowledge and traditional stewardship practices is another critical but underutilized opportunity, which can offer time-tested insights into land management. Furthermore, concerns remain about how insect and pathogen dynamics might change when trees are moved beyond their native ranges. Finally, social barriers—such as protests by environmental NGOs against planting off-site species—indicate a need for transparent communication and community engagement when implementing CLIPP strategies.

Question 3: What are next steps or actions that SFI can take to advance this CLIPP? Who should we collaborate with?

To advance CLIPP implementation, SFI can take a leadership role by supporting the development and dissemination of more case studies that clearly document both successes and failures in adaptive management. These real-world examples are vital to building practitioner confidence and accelerating the application of lessons learned. Collaborating with institutions such as the USGS Midwest Climate Adaptation Science Center (CASC) and regional forest silviculture cooperatives can help ensure that applied research and monitoring efforts remain robust and regionally relevant. Leveraging resources like the Great Lakes Silviculture Library can also facilitate peer-to-peer learning across different ecological zones. Building partnerships with key networks—such as the Society of American Foresters (SAF), SFI-

certified organizations, and the National Association of State Foresters (NASF)—can amplify outreach and help standardize practices across jurisdictions.

Additionally, SFI could support pilot projects that explore how to mitigate uncertainty and reduce risks through structured experimentation, including trials of different thinning regimes and adaptive harvesting methods. Engaging with conservation organizations, universities, Indigenous communities, and local stakeholders will ensure that CLIPP implementation is both inclusive and context-specific. By encouraging collaboration across these diverse actors, SFI can help catalyze a more climate-resilient forestry sector grounded in evidence, innovation, and equity.

SILVICULTURE – ADAPTIVE MANAGEMENT	SUMMARIZED RANKED COMMENTS
What We Heard	• Silviculture strategies are evolving; not all retention methods are equal. • Public perception influences harvest choices (e.g., shelterwood vs. clearcut). • Current utilization of existing partnerships (Forest Silviculture Coops, Universities), tools (Northeast silviculture library), and case studies (NCASI/CASC)
Gaps and Barriers	• Agroforestry, multi-use land management, Silvopasturing with goats/ sheep, etc. • Extent and variability of state/nationwide prescribed burning. • Assisted migration impacts and interactions to biodiversity (commercial vs. native spp., pests/pathogens) • Best practices for post-disturbance restoration and indigenous knowledge.
Next Steps and Collaboration	• More case studies sharing adaptive management success and failure • Increase collaboration across multiple stakeholders (Forest Silviculture coops, USGS Climate Adaptation Science Center, SAF, NASF, SFI Orgs, Conservation orgs, universities, indigenous, local) • Increase experimentation (e.g. thinning regimes)

CONCLUSION

SFI is incorporating the ideas and feedback received from the workshop into their multi-year [SFI Climate Smart Forestry initiative](#) focused on advancing the interpretation and implementation of climate smart forestry across the SFI Canadian and the United States footprint. The Initiative focuses on both *enhancing* the carbon sink and *reducing* sources of emissions from the forest sector. The initiative works directly with experts and SFI-certified organizations to reduce net greenhouse gas (GHG) emissions by identifying, developing, and implementing practices that meet the [SFI FM Standard Climate Smart Forestry Objective](#), while achieving co-benefits for biodiversity and wildfire risk reduction. We are committed to partnering with SFI Implementation Committees (SICs), certified organizations, government, and non-profit organizations to address the objectives of our standards.

The expertise from presenters and contributions from participants will support the SFI conservation team in advancement of this SFI Climate Smart Forestry Initiative. The results from the engagement

session provide insights into current priorities as well as identify new avenues that SFI can pursue to develop the SFI Climate-Informed Principles and Practices (CLIPPs) for sustainably managed forests.

The Conservation team would like to thank all participants for their time and contributions, as well as the entire SFI staff that was engaged in facilitating the event.

2025 Conservation Impact Workshop participants in action. Thank you for your engagement!



For any questions or more information, please contact the SFI Conservation Pillar:

SFIConservation@forests.org

SFI CONSERVATION IMPACT WORKSHOP



FOREST INVENTORY

Sponsored by:



BACKGROUND

Forest inventories are essential tools for understanding the composition (e.g., tree species), structure (e.g., canopy layers), health (e.g., pests and diseases), and carbon potential of forests (e.g., carbon pools). Forest inventories need to evolve to capture new risks and opportunities as climate change leads to rapid changes in forest dynamics across Canada and the U.S. Modern inventory techniques incorporate near real-time remote sensing data to track forest conditions more accurately and efficiently at the landscape scale. Cross-boundary collaborations among industry, Indigenous communities, academia and governments, are essential to identifying and implementing practical, region-specific solutions.

FROM CONCEPT TO PRACTICE

Traditional inventories rely on field plots and aerial surveys for periodic measurements of species composition, diameter, height, and age. These data provide the baseline to support growth and yield models, ecological assessments, and forest health monitoring. Building on these foundations, new technologies are now enhancing the scope and precision of forest inventories. Climate change impacts are increasing forest growth rates in some regions while causing a decline in others. By incorporating climate change into growth projections, managers can better prioritize harvest decisions and the timing of management actions. LiDAR, satellite, and drone data are regularly being used to map everything from post-fire recovery to inform replanting strategies, to near real-time tracking of tree mortality following severe drought and pest events. By modernizing inventory techniques, forest stewards are better positioned to respond to the fast-changing environmental conditions.



For more information, please
scan the QR code or contact:
sficonservation@forests.org

2025 SFI ANNUAL CONFERENCE

INNOVATING FOR
FORESTS AND COMMUNITIES

MAY 20-23, 2025
MINNEAPOLIS, MINNESOTA
L'etoile du Nord Minnesota (Star of the North)



SFI CONSERVATION IMPACT WORKSHOP



VULNERABILITY ASSESSMENTS

Sponsored by:



BACKGROUND

A fundamental component of Climate Smart Forestry is an assessment of a forest's capacity to absorb changing environmental conditions while maintaining its ecological functions. Like forests across the globe, the temperate and boreal forests of the U.S. and Canada are already experiencing challenges from changes in the climate conditions to which they are adapted, as well as increasing disturbances from wildfire, drought, and disease. A vulnerability assessment examines these different factors affecting forest health and evaluates the ability of the forest to cope with a changing climate or bounce back from the increasing frequency and intensity of disturbances.

Vulnerability assessment usually includes three components:

- Exposure, or the extent to which a forest is exposed to climate change outside the range of natural variability,
- Sensitivity, the ecological characteristics of a forest that make it more or less sensitive to the changes it is exposed to, and
- Adaptive Capacity, which is the ability of the forest to respond to changing conditions.

A vulnerability assessment combines climate, ecological and socioeconomic data to help guide adaptive silviculture planning and risk mitigation. The results of an assessment inform forest managers how climate change affects the forests in their land base, and in turn can help prioritize what types of interventions can best sustain forest health and productivity.

FROM CONCEPT TO PRACTICE

Vulnerability assessments inform forest planning and management. These tools are being used to shape harvest scheduling, species selection, and infrastructure resilience. In British Columbia, fire-prone landscapes have been assessed to inform their vulnerability to wildfires so that communities at risk could develop fuel management protection strategies. In the southeastern U.S., assessments have helped address risks to longleaf pine ecosystems from shifting rainfall and storm regimes. When assessments are paired with Indigenous and local knowledge, they become more than data—they become practical guides for building climate-resilient forests.



For more information, please
scan the QR code or contact:
sficonservation@forests.org

2025 SFI ANNUAL CONFERENCE

INNOVATING FOR
FORESTS AND COMMUNITIES

MAY 20-23, 2025
MINNEAPOLIS, MINNESOTA



SFI CONSERVATION IMPACT WORKSHOP



FORESTRY OPERATIONS

Sponsored by:

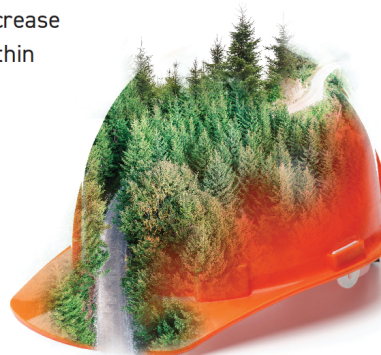


BACKGROUND

Forestry operations in Canada and the U.S. are adapting to challenges caused by climate change while continuing to provide wood products, jobs, and essential ecosystem services. Climate Smart Forestry emphasizes operational practices that both reduce greenhouse gas emissions and increase forest resilience. This includes taking into account changes in seasonality and precipitation regimes as well as evaluating forest operation emissions. When planning for sustainable harvests, it is important to design transportation infrastructures that are resilient to changing and extreme weather events. For example, mitigation strategies can be implemented that reduce negative impacts on soil resulting from shorter and warmer winters, or reduce risk of disturbance from pests and fires. Integrating climate considerations into daily operations is key to sustaining long-term productivity and carbon benefits.

FROM CONCEPT TO PRACTICE

Climate-informed forestry operations are already being implemented across North America. In regions where forest managers rely on winter conditions, harvest schedules are being adjusted to reduce soil disturbance during warmer and wetter winters. Many loggers are considering equipment and fuel options to maximize efficiency while reducing emissions. In areas with more frequent extreme precipitation events, landowners are increasing the size of culverts to address the increased risk of floods. This action reduces the risk of road failure and can increase aquatic connectivity within the watershed. These operational changes — both large and small — support the objectives of Climate Smart Forestry while maintaining forest productivity.



For more information, please
scan the QR code or contact:
sficonservation@forests.org

2025 SFI ANNUAL CONFERENCE

**INNOVATING FOR
FORESTS AND COMMUNITIES**

MAY 20-23, 2025
MINNEAPOLIS, MINNESOTA
L'étoile du Nord Minnesota (Star of the North)



SFI CONSERVATION IMPACT WORKSHOP



SILVICULTURE – ADAPTIVE MANAGEMENT

Sponsored by:



BACKGROUND

Climate change is having a negative effect on tree growth and survival. Shifting disturbance regimes are affecting the climate envelope where tree species can establish and survive. Adaptive silvicultural strategies take into account the impacts of climate change to enhance forest resilience while maintaining productivity and biodiversity. This can involve the selection of tree species and practices suited to more uncertain environmental conditions by transitioning newly established forests to grow and survive in future conditions. The integration of Indigenous knowledge and local expertise also ensures that the silviculture activities are relevant and sustainable across North America.

FROM CONCEPT TO PRACTICE

In North America, forest managers are utilizing resistance, resilience, and transition strategies to adapt to the current challenges brought by climate change. Forest managers are applying assisted migration strategies to match newly established forests to future climates. This can be achieved by planting tree species from warmer zones into new areas (e.g., further north or at higher elevation). In other areas, forest managers are applying adaptive silviculture strategies by shifting towards more diverse stands (e.g., mixed species), thus increasing the forests resilience to pests and drought*. In areas impacted by drought and wildfire, innovative thinning practices are being implemented to reduce fuel loads and water-stress for the remaining trees. Utilizing one or more of these adaptive strategies ensures that forests can not only survive, but also thrive under the current and future climatic challenges.



For more information, please
scan the QR code or contact:
sficonservation@forests.org

*<https://www.nrs.fs.usda.gov/rooted/docs/rooted-vol02.pdf>

2025 SFI ANNUAL CONFERENCE

INNOVATING FOR
FORESTS AND COMMUNITIES

MAY 20-23, 2025
MINNEAPOLIS, MINNESOTA

