

Lake States SIC Climate Smart Forestry Regional Assessment

2022



The SFI 2022 Forest Management Standard has incorporated opportunities for cooperative efforts involving SFI Implementation Committees to meet various Indicators in this standard. SFI Inc. developed a [playbook](#) and hosted a national workshop on March 31 to discuss how Climate Smart Forestry Indicators could be addressed collaboratively.

On August 24th, 2022, SFI hosted a Lake States Regional Workshop specifically to help SICs in that region meet Performance Measure 9.1.

Performance Measure 9.1 Certified Organizations shall individually and/or through cooperative efforts involving SFI Implementation Committees or other partners identify and address the climate change risks to forests and forest operations and develop appropriate adaptation objectives and strategies. Strategies are based on best scientific information.

And Performance Measure 9.2

Performance Measure 9.2 Certified Organizations shall individually and/or through cooperative efforts involving SFI Implementation Committees or other partners identify and address opportunities to mitigate the effects associated with its forest operations on climate change.

The workshop was facilitated by Stephen Handler, Climate Adaptation Specialist, US Forest Service Northern Research Station and Northern Institute of Applied Climate Science (NIACS). The workshop helped SICs:

- Discuss potential climate change risks to SFI-Certified Organizations and develop a regional risk assessment.
- Identify potential adaptation actions for SIC and SFI-Certified Organizations to address priority climate impacts and in some cases offer mitigation opportunities.

The full agenda for the meeting can be found in Appendix 1.

The workshop was attended by SIC Participants representing 3 States - Michigan, Wisconsin, and Minnesota - as well as several organizations certified to the SFI Forest Management or Fiber Sourcing standards. A full list of attendees can be viewed in Appendix II.

The process of the workshop was to:

1. Identify climate change risks to forest health as well as forest operations,
2. Prioritize risks utilizing a matrix, and
3. Identify opportunities to adapt to risks, focusing on SIC-level actions.

1. Identifying Climate Change Risks

The workshop participants considered observed and projected climate change trends for the Lake States region, and identified several risks to forest health and forestry operations.

1. Milder / shorter winter – Less frozen ground conditions will lead to a compressed winter operating season, which will impact winter-only harvest sites.
2. Tree species range shifts – Warmer, milder winters will lead to increased stress for boreal species and increase the competitive advantages for southern/temperate species.
3. Regeneration issues - Deer browse damage is expected to increase due to an increased deer herd size with less winter-related mortality. Less snowpack may also expose seedlings to deer. Conversely, areas with more lake-effect snow may have more protection from snowfall as long as snowpack remains.
4. Higher logging operating costs – Expected climate trends will result in increased moving costs, less availability of operating ground due to weather, production delays, increased costs of snow removal.
5. Increased pests, pathogens, and invasive species – Warmer, shorter winters will create opportunities for forest pests, pathogens, and invasive species to move into new areas and cause more damage with a longer growing season.
6. Increased heavy rainfall events – More frequent and larger rain events will cause damage to infrastructure such as forest roads, bridges, and trails.
7. Increased soil erosion – Larger rain events are expected to cause more erosion, impacting water quality and damaging infrastructure. These events may challenge current BMPs.
8. Increased flooding – Flooding events may increase tree mortality and disrupt access and forest operations.
9. Increased wildfire risk – Shorter winters, earlier springs, and increased risk of drought can lead to increasing wildfire risk and a shift in the potential wildfire season.
10. Extreme events – there may be an increase in storm damage and a greater need for forest salvage.

2. Prioritizing Climate Change Risks

The effects of climate change will vary greatly, and some will have a more substantial impact on forest ecosystems and forestry operations. A risk management framework can help to identify the most significant climate change impacts and vulnerabilities and prioritize management responses. Considering these risks broadly across the Lake States region and across all SFI certified organizations can provide a

common understanding that individual organizations can use to refine based on their own circumstances. This regional risk assessment is designed to help focus (not limit) an individual organization's climate change efforts.

The group used the risk matrix below to identify the highest-priority issues from among all of the impacts that have been identified.

Risk = the probability of an event multiplied by some measure of its consequence

Assessing Risk

Use the figure to determine the risk rating for each impact or vulnerability (low-high).

1. What is the likelihood of the impact or vulnerability?

- Very likely**— it's already beginning or has already happened
- Likely**— it's imminent that it will happen
- Possible**— there's evidence to support it happening, but depends on other factors
- Unlikely**— there's evidence predominately supporting that it won't happen
- Very unlikely**— it would be against long odds to happen, but it's still possible

		Severity of Impacts				
		Negligible	Minor	Moderate	Major	Severe
Likelihood	Very Likely	Med. Low	Medium	Med. High	High	High
	Likely	Low	Med. Low	Medium	Med. High	High
	Possible	Low	Med. Low	Medium	Med. High	Med. High
	Unlikely	Low	Med. Low	Med. Low	Medium	Med. High
	Very Unlikely	Low	Low	Med. Low	Medium	Med. High

2. What is the severity of the impact if it does happen?

Consider forest ecosystem health as well as forestry operations.

- Negligible**— there is little visible, functional, or economic consequence
- Minor**— there is some visible, functional, or economic consequence, but within the range of normal variability
- Moderate**— visible, functional, or economic consequence is slightly outside the range of normal variability
- Major**— visible, functional, or economic consequence is detrimental to operations and must be addressed for operations to continue
- Severe**— visible, functional, or economic consequence that results in system failure

Participants worked in two groups to prioritize the climate risks with the above matrix. Then the two groups compared their results and discussed the similarities and differences in their rankings. There was great deal of agreement, particularly for the high-priority climate risks. The outcome of the prioritization exercise was as follows:

Ranking	Climate Change Risk	Rating (Severity / Likelihood)
1	Milder / shorter winters	High (Severe / Very Likely)
1	Tree regeneration issues	High (Major / Very Likely)
1	Heavy rainfall events	High (Major / Very Likely)
4	Increased pests, pathogens, and invasive species	Med High (Major / Likely)
5	Increased soil erosion	Med (Moderate / Likely)
6	Increase flooding	Med Low (Minor / Likely)
6	Higher logging operating costs	Med Low (Minor / Likely)
8	Tree species range shifts	Low (Negligible / Likely)
8	Extreme events	Low (Negligible / Possible)
8	Increase wildfire risk	Low (Negligible / Unlikely)

3. Identifying Adaptation Actions

The final portion of the workshop was to identify adaptation and some associated mitigation strategies to address the top 4 risks. The adaptation ideas are separated into two categories of action for SICs (SIC) and Certified Organizations (CO). This yielded the following table (a further list of adaptation actions can be found at the [Menu of Adaptation Strategies and Approaches – Developed for forests](#)):

Risk	Impacts	Adaptation Actions
Milder / Shorter Winters	<ul style="list-style-type: none"> -less winter harvest availability -different tree species -increased inoperable areas 	<ul style="list-style-type: none"> - (CO) Encourage use of low-impact logging equipment. - (SIC) Support research of low-impact logging techniques, summer operations, and snow manipulation. - (CO) Upgrade infrastructure (roads, stream crossings, landings) to support wider seasonality. - (SIC) Help identify funding opportunities for infrastructure upgrades - (CO) Having adaptive management plans and timber sale contracts - (CO) Offering variability within timber sales such as soil types, operability, species, product types, and geographic area.
Tree Regeneration Issues	<ul style="list-style-type: none"> - loss of productive forestland - Increased cost of maintaining forest 	<ul style="list-style-type: none"> - (CO) (SIC) Provide silviculture option trainings to promote species diversity. - (SIC) (CO) Support research in forest genetics, species adaptability, and desirable regeneration.

		<ul style="list-style-type: none"> - (CO) Increase assessment of artificial and natural regeneration. - (SIC) Sharing best practices across ownerships and landowner types - (CO) Identify alternative regeneration plans for unacceptable regeneration sites.
Heavy Rainfall Events	<ul style="list-style-type: none"> - increased road costs - loss of stumpage value - altered sustainable harvest levels - 	<ul style="list-style-type: none"> - (CO) Upgrade infrastructure (road, stream crossings, landings) to support higher rainfall. -(SIC) Evaluate BMPs for effectiveness under heavy rainfalls. - (CO) Encourage stand diversity to promote resilience. - (CO) Implementation of BMPs during harvest activities. - (SIC) Mandate BMP refresher (core training) to mitigate heavy rainfall impacts. Include field trainings that address more than culverts. -(SIC) Sharing BMPs throughout committee
Increased Pests, Pathogens and Invasives	<ul style="list-style-type: none"> -loss of stumpage value -altered sustainability harvest levels (value) - 	<ul style="list-style-type: none"> - (SIC) Support education and use of forest pests, pathogens, and invasive species BMPs. Conduct cross-training with forest managers and fiber purchasers. - (CO) Mitigate risk by maintaining tree vigor through stand management thinning, etc. -(SIC) Share best practices across SIC. -(CO) Increase monitoring and early intervention strategies. -(CO)/(SIC) Support research on forest health issues. -(SIC) Incorporate pests, diseases, and invasive species into landowner education materials.

This report is intended to serve as a resource for climate smart forestry and does not constitute a complete list of adaptation actions. As further adaptation actions are realized, this report can be updated accordingly.

Further resources on Climate Change and Forestry in the Lake States referenced during the meeting:

<https://dnr.wisconsin.gov/topic/forestplanning/actionplan2020>

https://www.dnr.state.mn.us/climate/climate_change_info/index.html

<https://www.michigan.gov/egle/-/media/Project/Websites/egle/Documents/Offices/OCE/MI-Healthy-Climate-Plan.pdf?rev=d13f4adc2b1d45909bd708cafccbffa&hash=99437BF2709B9B3471D16FC1EC692588> Page

Appendix I

Lake States SIC Regional Climate Change Workshop

Wednesday August 24th, 2022

PURPOSE & OBJECTIVES

The 2022 SFI Forest Management Standard includes a new Objective on “Climate-Smart Forestry,” which sets expectations for SFI certified organizations related to climate change risk assessment, adaptation, and carbon management. The Climate-Smart Forestry Objective also introduces new opportunities for engagement and collaboration via the SFI State Implementation Committees (SICs). This regional workshop is designed to help the SICs in the Lake States exchange ideas and provide some regional information for SFI certified organizations, which they can use as a starting point.

Specifically, this workshop will help the SICs to:

- Discuss potential climate change impacts to SFI certified organizations and SFI managed forests and develop a regional risk assessment
- Identify potential adaptation actions to address priority climate impacts
- Determine how SICs will share this information with SFI certified organizations

Outcomes:

1. A ranked list of climate impacts and vulnerabilities for the Lake States region
2. An initial list of adaptation actions for SFI certified organizations to consider

WORKSHOP PRE-WORK

1. Review climate change impacts for Lake States forests.
 - a. Watch this 40-min presentation on [Climate Change Impacts for Northwoods Forests](#)
 - b. Review the [climate change resources available for Northwoods forests](#) (field guides, summary highlights, tree species projections).
2. Share your climate change concerns and questions with this short survey by ASAP:
<https://forms.gle/JRFBCaXSveVRYfAp8>.
3. Review the [Climate-Smart Forestry Objective](#) in the 2022 SFI Forest Management Standard

WORKSHOP AGENDA

Location: Great Lakes Timber Professionals Association office – 3243 Golf Course Rd, Rhinelander, WI

Note: All times approximate. Agenda will be adjusted to accommodate discussion. Agenda is in Central time.

9:30 Introduction (Gordy)

- Welcome & Introductions
- Workshop Purpose
- Connection to SFI Playbook for Climate-Smart Forestry
- Antitrust Statement

10:00 Climate Impacts and Vulnerabilities (Stephen)

The goal is to create a list of the climate change impacts that are of greatest concern for SFI certified organizations and SFI managed forests. We will be considering these impacts broadly at the regional level, so we don't need to discuss these items in extreme detail. This list does not have to include every potential impact.

- Share a summarized list of climate impacts that were identified as part of the pre-work survey.
 - Review each making sure that everyone understands the issue, adding additional detail or clarification as needed.
 - Ask what other climate impacts may be missing that were not captured in the survey responses.
- Have a good discussion of climate impacts
- Don't worry about rating or ranking impacts at this point – just get the ideas down
- Gordy take Notes in Step 2 worksheet.

10:45 Break

11:00 Risk Assessment – State Groups (Stephen)

The goal is to understand which climate impacts create the most concerning risks to SFI certified organizations in the region. Risks may related to the health and condition of certified forests, or they relate to the forestry operations of SFI certified organizations (e.g., infrastructure damage due to extreme rainfall). We will use a risk assessment process to evaluate how individual risks may broadly affect SFI certified organizations in the region, and then prioritize them.

- Present slides to explain process. Time frame is next 20 years. = 15 minutes [Provide an example to illustrate how to rate likelihood and severity.]
- Break into small groups by state. Each group should look at the list of climate impacts and select 5 items to evaluate using the prioritization process. You can pick any 5 based on what you think will be the most important or things you'd like to think about in more detail as a group.
- ~30 min group work time. For each item, groups should:
 - Evaluate likelihood that it will happen
 - Evaluate severity if the impact does happen – effects on forests and operations
 - Create overall risk rating
- While group is working, put diagram up in a place where people can view it (if possible).

11:30 Risk Assessment – Full Group Discussion (Stephen)

- Instruct groups to use sticky notes to place their ratings on the diagram (if possible). Each

team gets a different color.

- Where groups evaluated the same impact, compare and discuss how they rated the risk of these impacts.
- Then discuss climate impacts where only 1 group rated that impact.
- Capture notes regarding the risk evaluation or suggestions for possible adaptation responses as appropriate
- After all items have been evaluated, go back and look through risk ratings to determine whether to prioritize items.
 - What impacts rise to the top of the list because several groups rated high risk?
 - For impacts that are low priority, why is that? Is that okay?
 - If we looked at a longer time period, would any ratings or priorities change?
- Finalize Step 3 worksheet.

12:00 **Lunch**

12:45 **Complete Risk Assessment & Review Risk Ratings**

Buffer time if needed, otherwise move ahead!

1:15 **Climate Change Adaptation Concepts (Stephen)**

Presentation on management options to help forests adapt to changing conditions. Introduce menus of adaptation strategies and approaches and describe how they can be used to connect big ideas to more targeted actions. For this workshop, the SICs will be discussing adaptation actions that could be broadly applicable across the region, rather than specific tactics to implement on individual ownerships.

1:45 **Identify and Evaluate Adaptation Actions – State Groups (Stephen)**

Goal is to brainstorm a list of actions that SFI certified organizations could take to address the highest-priority risks. This list will be a starting point for individual organizations to consider.

- Break into small groups. Each group should consider the list of high-priority climate impacts.
- For each high-priority impact, use the worksheet to:
 - Brainstorm ~5 potential adaptation actions that could be broadly applicable to respond and adapt to the risk, trying to get many people to provide suggestions. Teams can use any of the NIACS menus to generate ideas or come up with their own.
 - Consider urgency, barriers, opportunities, and capacity for implementation
- ~45 min group work time

2:30 **Break**

2:45 **Identify and Evaluate Adaptation Actions – Large Group Discussion (Stephen)**

- Groups report out
- Gordy takes notes to complete Step 4 worksheet

3:30 **Summarize & Next steps (Gordy)**

Items for discussion:

- Are there any big takeaways or 'ahas' from the discussion?
- Are there gaps or ideas we didn't discuss?
- How can we compile this information so individual certified organizations can carry the ball forward?
- What are some concrete next steps?

4:00 **Adjourn!**

