

MSU Forestry Department
Forest Carbon and Climate Program

Assuring Sustainability in Forest Management

General concepts and the role of Certification

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Woodworks, October 2020



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Forest-based strategies for mitigating climate change



Increase or
maintain
forestland

Avoiding Deforestation
and Reforestation



Maintain or
Increase carbon
stocks

Changing management
plan; Adapting to
Climate Change



Increase
Wood Use

Substituting wood
for energy-intensive
building materials



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A Spectrum of Forest Benefits



Timber
Products

Sequestration

Non-timber +
Recreational Uses

Biodiversity

Carbon Storage
In Forest Pools

Plantation

- Less biodiversity
- Lower carbon storage on land
- Likely higher carbon sequestration rates
- High forest product production
- Could be targeted for high-risk areas (e.g., fire prone)



Selection Cutting

- Relatively high biodiversity
- Medium carbon storage on land
- Medium but consistent carbon sequestration rates
- Full range of ecosystem services
- Mix of timber and non-timber forest products



Old growth

- High overall biodiversity
- Highest carbon storage on in forest ecosystem pools
- Possibly lower sequestration rates
- Very limited timber products
- Could be targeted for low-risk areas
- Recreation, habitat, etc.



Presentation Outline

Introducing Certification

Forest Management Certification

Fiber Sourcing and Chain of Custody

Certification: Alignment with Climate Change

FCCP Training and Engagement



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Introducing Certification

Certified sustainable forestry and forest products

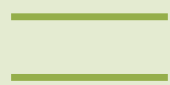


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Climate-Smart Forestry (CSF)

- Targeted approach/strategy to increase climate benefits from forests and the forest sector
- Respects and embraces other needs related to forests
- Three pillars:
 1. Reducing and/or removing greenhouse gas emissions to mitigate climate change
 2. Adapting forest management to build resilient forests
 3. Active forest management aiming to sustainably increase productivity and provide all benefits that forests can provide

Forest
Certification



Climate-Smart
Forestry



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(European Forest institute)

What is Certification?

Forest certification:

a mechanism
for forest management,
monitoring, tracing, and
labeling of timber, wood and
pulp products and non-timber
forest products, where the
quality of forest management
is judged against a series of
agreed standards. (WWF, 2018)

Important terms

Standard – the requirements against which certification assessments are made

Certification – the confirmation that the forest and its management conforms to a particular standard

- Assessed by third party, who reviews documentation, observes the forest, interviews management and employees, and uses evidence from third parties
- Trained assessors following ISO practices

Accreditation – the mechanism for ensuring that the organizations that undertake certifications are competent and produce credible results



Comparing Management

Short-term Thinking

- Easiest route into forest
- Emphasis on extraction and high financial return
- Not necessarily based on research, training, or best practices
- Damage to, and resulting mortality of, remaining trees
- Limited consideration of soil, water, and habitat impacts



Image: <https://hydrodictyon.eeb.uconn.edu/people/willig/Research/Brazil/Brazil.html>

Long-term Thinking

- Certification solidifies these practices in standards
- Research and data-informed decision-making
- Required considerations of waterways, sensitive areas, habitat
- Minimizing damage
- Move beyond legal minimums in many areas
- Examples of practices:
 - Reduced Impact Logging (in tropics)
 - Best Management Practices

Note: Possible to pursue best practices without certification, but certification encourages additional adoption



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Certification provides:

- Facilitates climate-smart forestry/forestry BMPs
 - Technical guidance and support to working forests
 - Communication network of best practices
 - Education and engagement for deployment of improved practices
- Forest certification is based on principles that promote sustainable forest management
- A range of benefits in its guidance
 - Carbon benefits are just a one such benefit
- Assurances to a range of stakeholders including investors and donors, governments, shareholders and employees, and purchasers

**Forest
Management
Standard**

**Fiber
Sourcing
Standard**

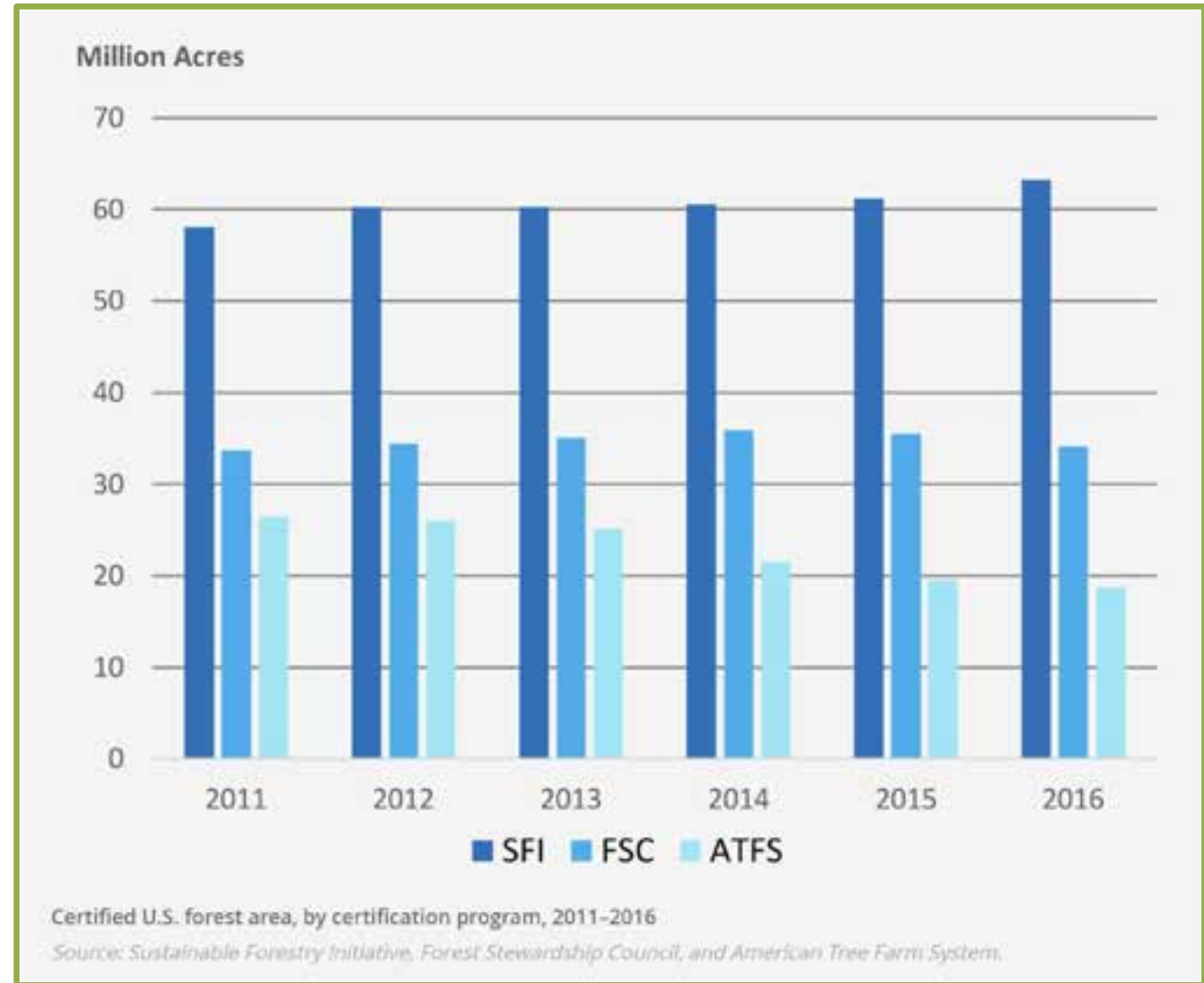
**Chain-of-
Custody
Standard**

**Core
Principles**



Certification Bodies

- Sustainable Forestry Initiative (SFI)
 - Housed under Programme for the Endorsement of Forest Certification (PEFC)
- Forest Stewardship Council (FSC)
- American Tree Farm
 - Under PEFC



Source: State of America's Forests. 2019. <https://usaforests.org/>



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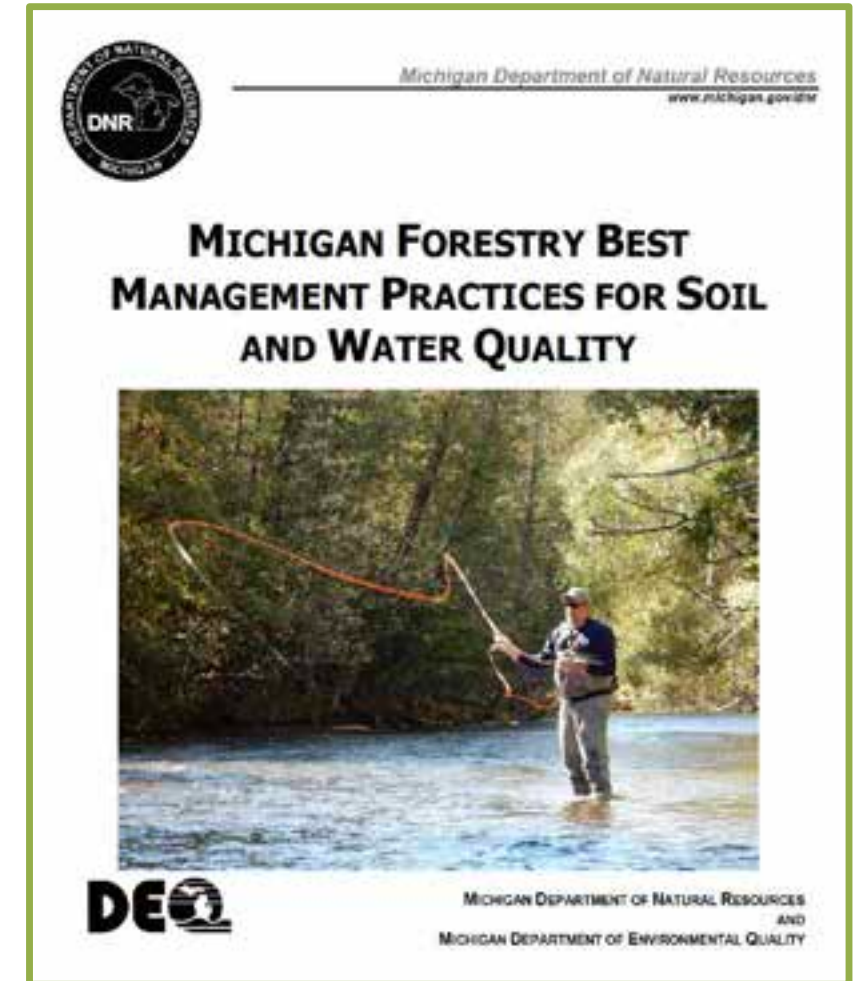
Forest Management Certification



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Best Management Practices (BMPs)

- Guidelines to avoid, minimize, or mitigate adverse effects to soil, water quality, and riparian resources
- National core BMPs in 11 categories
- Not required in all states, certification bring more actors into alignment where they are not required
- Example topics and requirements:
 - Cleaning up fuel spills
 - Minimizing ruts left by heavy equipment
 - Installing properly sized culverts and bridges that allow fish passage
 - Minimizing soil disturbance
 - Water quality considerations
 - Biodiversity and Wildlife Habitat
 - Forests with Exceptional Conservation Value
 - Reducing forest impacts during harvest
- Michigan example: BMPs not required, certification boosts adoption



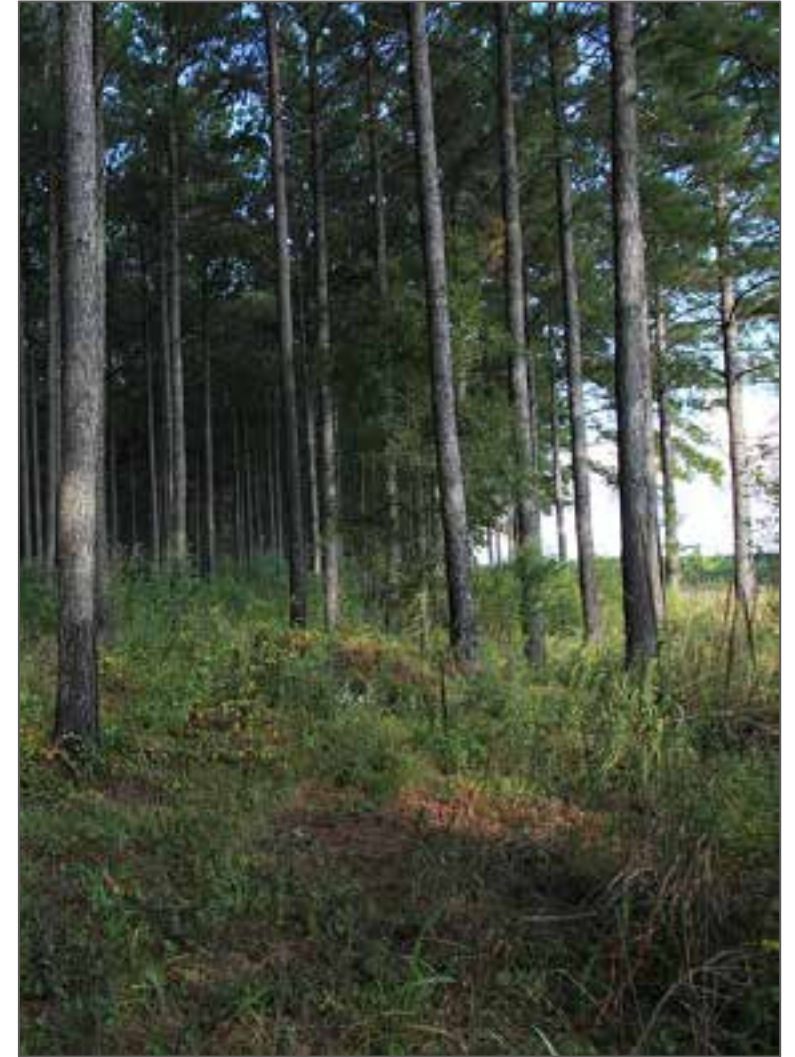
Sources: USFS, State of MI



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Basics of forest management certification

- How to become 'Certified'?
 - A forest owner must follow set guidance
 - Inventory, implementation of BMPs, monitoring
- Auditing by third-party verifiers
- Loggers required to complete training
- BMPs for that state are required
- Many of these have implications for carbon storage
- Additional activities
 - Community and outreach
 - Research



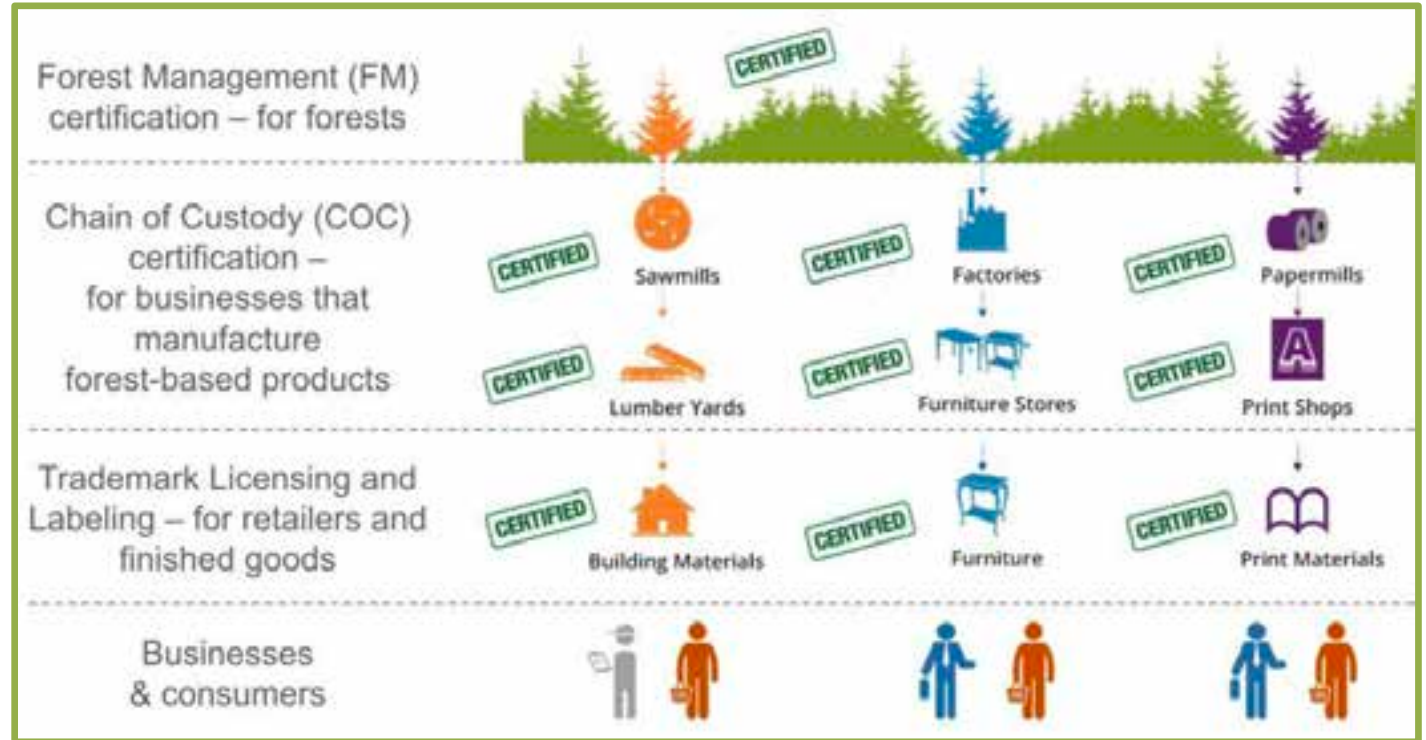
Fiber Sourcing and Chain of Custody



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Chain of Custody (CoC)

- CoC traces certified materials through the supply chain
 - Verifies that certified material is identified or kept separate from non-certified material
- Allows for communication about certified forest products
- Direct data and linkages forest to product
- CoC picks up after Forest Management Certification



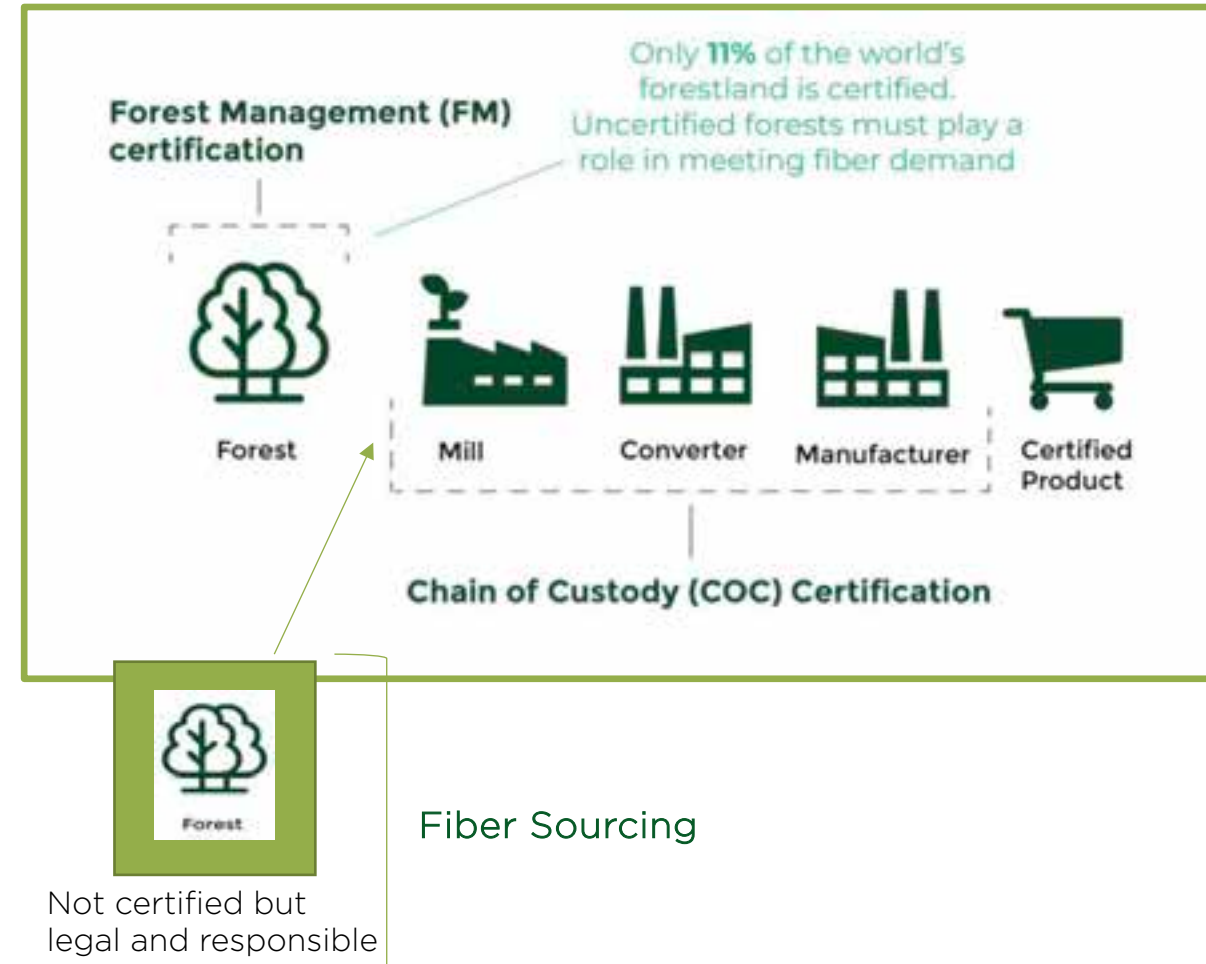
FSC, 2020



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Fiber Sourcing and Chain of Custody Certification

- Chain of Custody
 - Refers to the entire path of **certified** products from forests through to the supply chain
- Fiber sourcing
 - Refers to **uncertified** wood entering the mill for processing
 - Emphasis on legal, responsible sources if not certified



Source: <https://greenblue.org/module-2-the-role-of-forest-certification/>



Responsible Fiber Sourcing/Controlled Wood

- Fiber sourcing refers to the wood entering the mill for processing, which are not be from certified
 - Emphasis on “legal and responsible”
- SFI Fiber Sourcing
 - Requires BMPs for the wood
 - Using trained loggers
 - Prohibits
 - Sourcing from areas without effective social laws
 - Illegal timber
- FSC Controlled Wood
 - Identified material from acceptable uncertified sources that can be mixed with FSC-certified material in products that carry the “FSC Mix” label
 - Prohibits
 - GMO trees
 - Conversion to non-forest use
 - Threats to forests with High Conservation Values
 - Violation of traditional or civil rights
 - Illegal harvest



Example of fiber sourcing from a major timber company



Certification: Alignment with Climate Change

Pillars are in line with forest adaptation and mitigation



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Mitigation & Adaptation

- Harvested wood is part of the climate solution – but ONLY if it is sustainable
- Certification can ensure sustainability in management and procurement (and in climate benefits!)



SFI example:

Obj. 2: Forest Productivity and Health

- to protect forests from economically or environmentally undesirable levels of wildfire, pests, diseases, invasive exotic plants and animals, and other damaging agents and thus maintain and improve long-term forest health

SFI Core Principles



Resilient, healthy forests = climate adaptation

Communication & Stakeholder Engagement

Clear Messaging

- Visible and recognizable logos
- Branding on labels and in stores
- Built a foundation that the climate change message can grow from
- Promotes investment in sustainable forestry
- Consumer purchasing decisions
- Foundation for lower emission products and materials



Low Risk of Deforestation In US And Canada

"Sustainably managed forests are healthy, productive, resilient and renewable ecosystems, which provide vital goods and ecosystem services to people worldwide."

— UN Forum on Forests - May 1, 2017

"The impact on forest area of "reverse drivers" such as afforestation policies is particularly evident in high-income countries such as the United States of America and those of Western Europe, where net deforestation bottomed out many decades ago..."

— 2016 State of the World's Forests Food and Agriculture Organization of the United Nations

FOREST PRODUCTS FROM THE U.S. AND CANADA POSE EXTREMELY LOW RISK FOR DEFORESTATION

The most recent data available from the U.S. Forest Service show a continuing trend toward increases in forest area nationwide. A 2012 study showed the nation's forests increased by roughly 7 million acres, or 1% between 2007 and 2012.

Canada's 348 million hectares of forestlands represent about 9% of the world's forest cover, but account for only 0.3% of global deforestation. The conversion of forest to agricultural land is decreasing but it remains the largest contributor to deforestation in Canada. The infinitesimal contribution the forest sector makes to deforestation is from building permanent logging access roads. Forest harvesting practices in Canada are tightly regulated to ensure the long-term sustainability of this important natural resource.

WWF has identified 11 places where the largest concentrations of forest loss or severe degradation are projected to occur between 2010 and 2030.

NONE ARE IN THE U.S. OR CANADA



Source: WWF "Living Forests Report: Chapter 5 - Saving Forests at Risk"

Source: Achieving Net Zero Deforestation. Sustainable Forestry Initiative. https://www.sfiprogram.org/wp-content/uploads/SFI_Deforestation2018_Mar27.pdf



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FCCP Training and Engagement



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Professional Short Courses

Michigan State University Forestry Department

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Mini-course Forest Certification and Climate Change

Learners will develop a robust understanding of forest land values and ecologic services linking carbon management and climate change mitigation activities with forest certification.

Graduates will develop expertise in:

- Valuing working forests for carbon sequestration
- Climate change adaptation and mitigation strategies in forest certification standards
- Climate benefits for forest certification in wood products
- Distinguishing climate benefits in chain of custody standards
- Ensuring climate values of harvested wood products through certification

Course Sections

Conceptual Introduction and Overview

Physical Science of Forests and Climate

Forest Certification and Climate Change

Timeline
Online
Self-paced
2-3 Weeks

Audience
Landowners
Natural Resource Professionals
Conservationists
Educators
Extension Agents

Start Date
Rolling Start Date

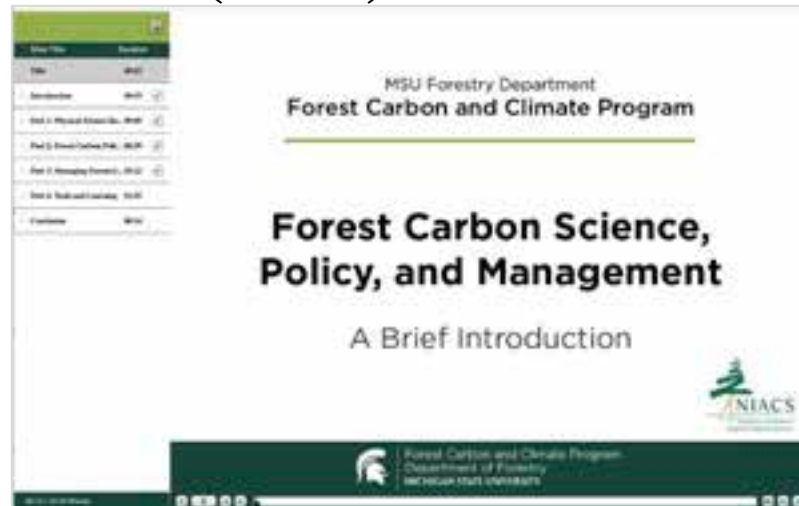
Contact
canr.msu.edu/fccp
forestc@msu.edu

Register: <https://www.canr.msu.edu/fccp/>

Open Source Library (FCCP ORL)

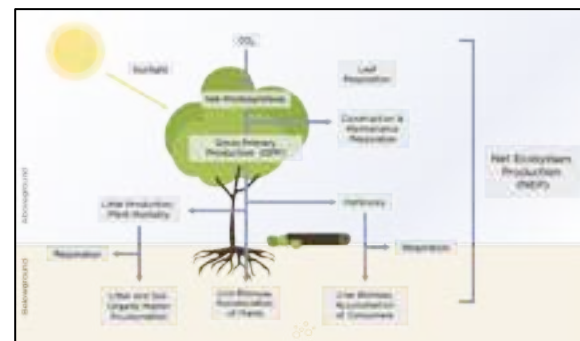
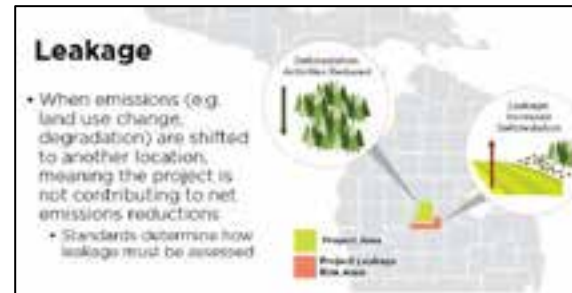
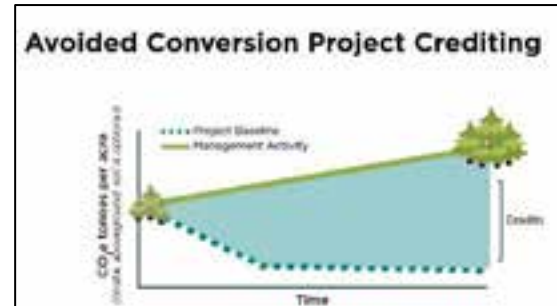
Interactive Module

USDA Climate Change Resource Center (CCRC)

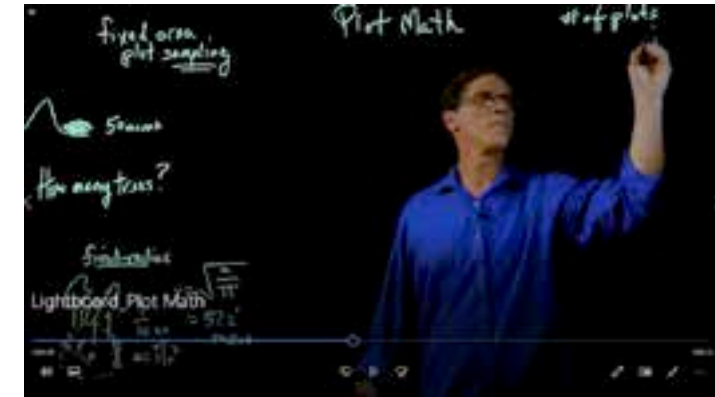


<https://www.fs.usda.gov/ccrc/education/forest-carbon-science-policy-and-management>

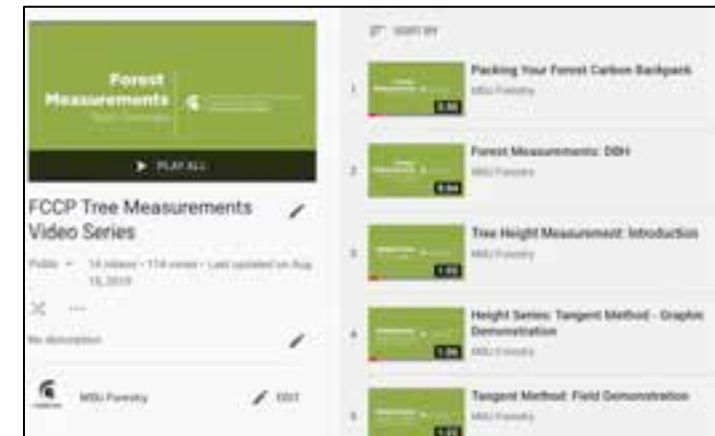
Graphics/Slides



Videos



Light-board carbon calculation demonstration with Dr. David MacFarlane



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SPEAKER LINEUP

2020-21 FCWG LEARNING EXCHANGE SERIES **3-4PM EST**

OCT. 7

**Ensuring the Integrity of
Forest Carbon Offsets**

Christie Pollet-Young and Alexa
Dugan



NOV. 4

**American Carbon
Reforestation: The Need,
The Challenges, and The
Opportunities**

Mike Smith



DEC. 2

**New Approaches
to Connect Forest
Landowners to Voluntary
Offset Revenue**

Dylan Jenkins



JAN. 6

**Regional Scale Forest
Product Markets and
Effects on Forest Carbon
Sequestration**

David Wear



FEB. 3

**Innovative Approaches to
Increasing Carbon on the
Landscape**

Eric Sprague, Austin Rempel,
Christine Cadigan, and Nathan
Truitt



MAR. 3

**Forests and Carbon in
Sustainable Business**

Luis Rochartre



APR. 7

Urban Forests and Carbon

Dave MacFarlane and Leslie
Brandt



MAY 5

**Ecosystem Services
Markets Conceived and
Designed for Agriculture**

Thayer Tomlinson and Debbie
Reed



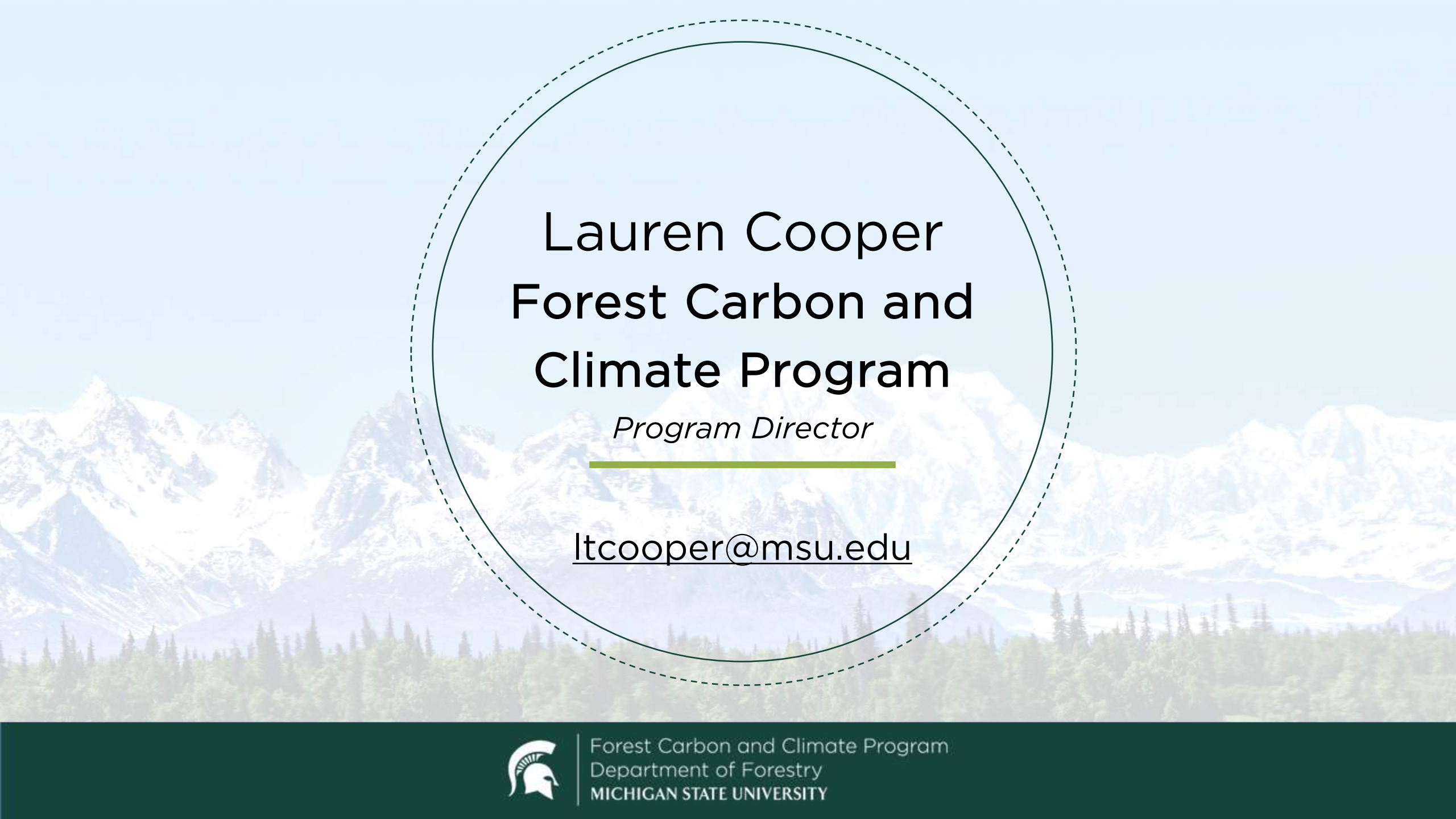
For more information on the 2020-21 FCWG Learning Exchange Series, visit the [MSU FCCP website](#).



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FOREST-CLIMATE
WORKING GROUP



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