USDA Partnerships for Climate-Smart Commodities

New England Climate-Smart Forest Partnership

NEW ENGLAND FORESTRY FOUNDATION

Agenda

1. Framing the Opportunity
2. Climate-Smart Forestry: Silvicultural Approach
3. USDA Climate-Smart Commodities New England Partnership Project Overview
   - Project partners
   - Project elements
   - Advisory Committee
4. Partner Roundtable
5. Discussion and Q&A

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Today's Speakers & Project Team

NEFF Team

- **Robert Perschel** | Executive Director
- **Alec Giffen** | Senior Forest Science & Policy Fellow
- **Andrea Colnes** | Deputy Director & Climate Fellow
- **Jen Shakun** | Bioeconomy Initiative Director
- **Lisa Hayden** | Outreach Director
- **Catrina Vear** I CSC Project Coordinator

Project Partners

- **Dan Hudnut** | Wagner Forest Management
- **Jeff Spiritos** | Spiritos Properties
- **Richard Campbell** | American Forest Foundation/FFCP
- **Ted Wright** | Trust for Conservation of North East Forests
- **Tim Stout** I Northam Forest Carbon

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In the Climate Emergency, Forests Offer Hope

Forests are a stabilizing force for the climate. They regulate ecosystems, protect biodiversity, play an integral part in the carbon cycle, support livelihoods, and supply goods and services that can drive sustainable growth.

New England holds the ingredients for hope through action

- **Forests can meet up to 30 percent of regional climate goals**
- **31.6 billion trees**
- **Ground-breaking $30 million opportunity to pilot forest-climate solutions**

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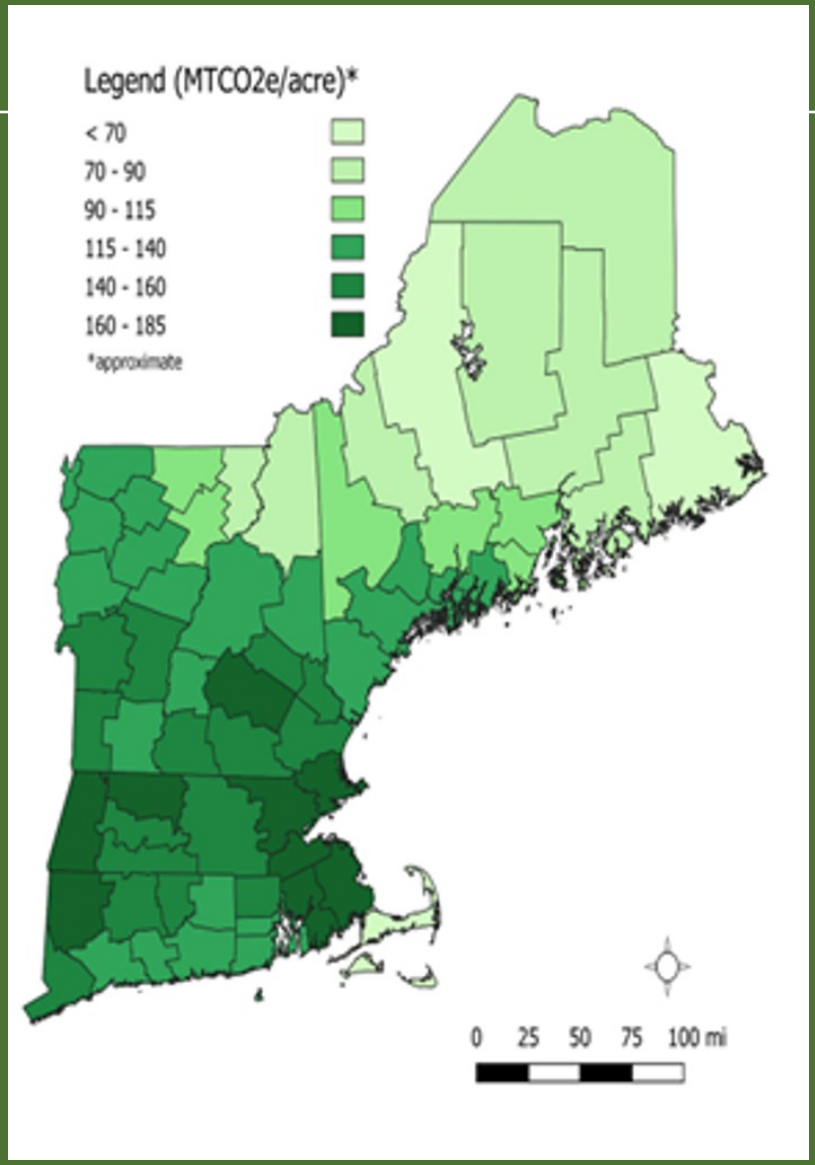
Lauren Owens Lambert

Carbon per acre of forest

(All carbon above mineral soil)



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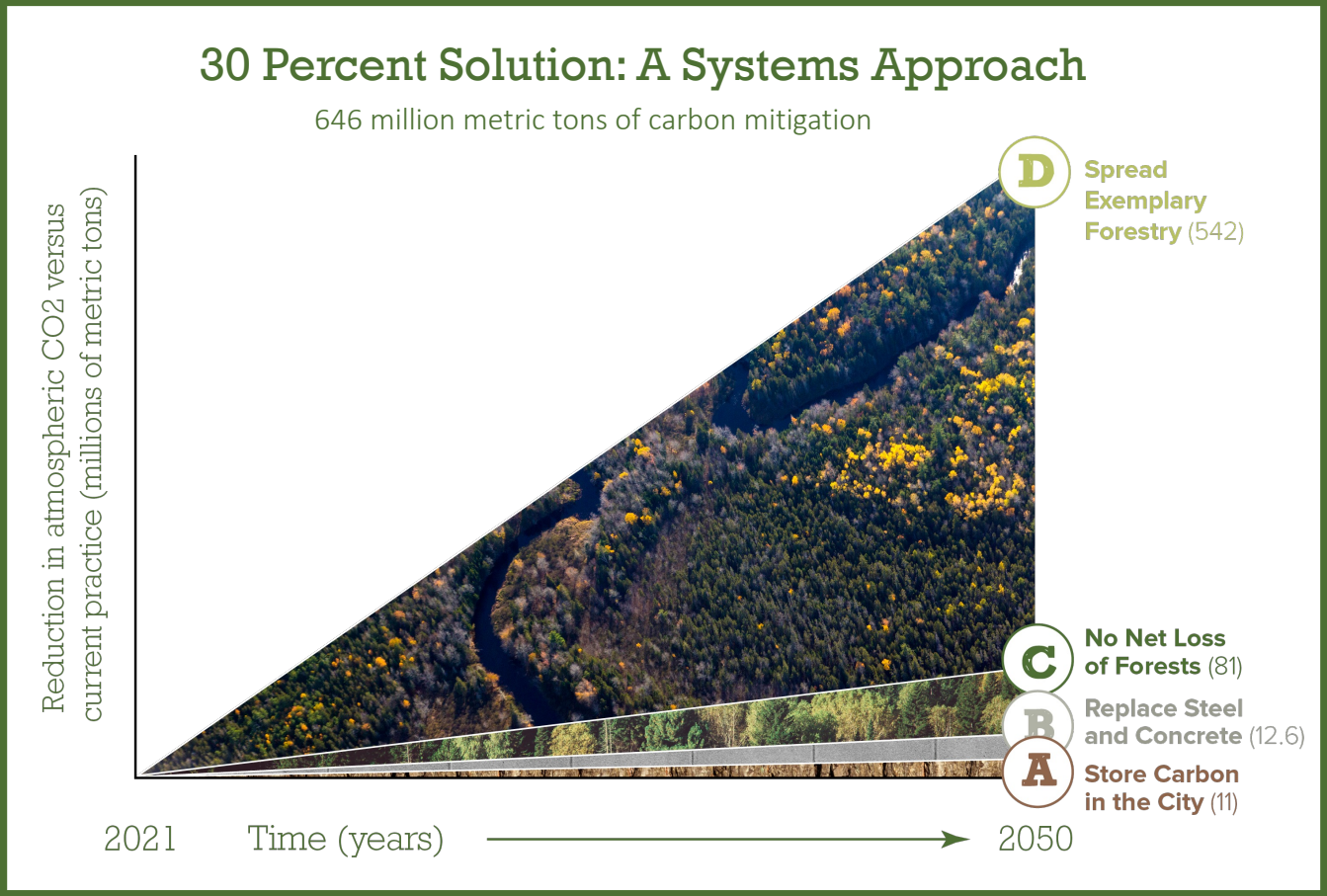
Why Did NEFF Pursue This Project?



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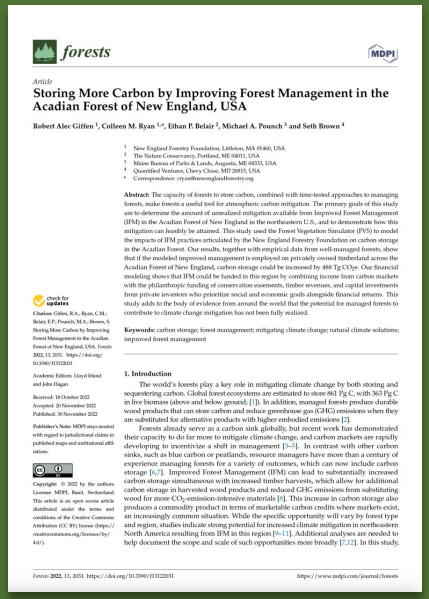
Scientific Confirmation

- Improved forest management could increase carbon storage by an estimated 488 million metric tons of CO2e (about 23% of emissions reductions for New England to reach net-zero emissions by 2050).
- New England forests could sequester at least 20% of the region's current emissions and, if states meet emissions-reduction goals, up to 97% of remaining emissions in 30 years.
- Maine's commercial forests can store up to 20% more carbon while maintaining harvest



forests

MDPI

Article

Storing More Carbon by Improving Forest Management in the Acadian Forest of New England, USA

Robert Alec Giffen [1], Colleen M. Ryan [1,*], Ethan P. Belair [2], Michael A. Pounch [3] and Seth Brown [4]

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[2] The Nature Conservancy, Portland, ME 04011, USA
[3] Maine Bureau of Parks & Lands, Augusta, ME 04333, USA
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Abstract: The capacity of forests to store carbon, combined with time-tested approaches to managing forests, make forests a useful tool for atmospheric carbon mitigation. The primary goals of this study are to determine the amount of unrealized mitigation available from Improved Forest Management (IFM) in the Acadian Forest of New England in the northeastern U.S., and to demonstrate how this mitigation can feasibly be attained. This study used the Forest Vegetation Simulator (FVS) to model the impacts of IFM practices articulated by the New England Forestry Foundation on carbon storage in the Acadian Forest. Our results, together with empirical data from well-managed forests, show that if the modeled improved management is employed on privately owned timberland across the Acadian Forest of New England, carbon storage could be increased by 488 Tg CO_2e. Our financial modeling shows that IFM could be funded in this region by combining income from carbon markets with the philanthropic funding of conservation easements, timber revenues, and capital investments from private investors who prioritize social and economic goals alongside financial returns. This study adds to the body of evidence from around the world that the potential for managed forests to contribute to climate change mitigation has not been fully realized.

Keywords: carbon storage; forest management; mitigating climate change; natural climate solutions; improved forest management

check for updates

Citation: Giffen, R.A.; Ryan, C.M.; Belair, E.P.; Pounch, M.A.; Brown, S. Storing More Carbon by Improving Forest Management in the Acadian Forest of New England, USA. *Forests* **2022**, *13*, 2031. https://doi.org/10.3390/f13122031

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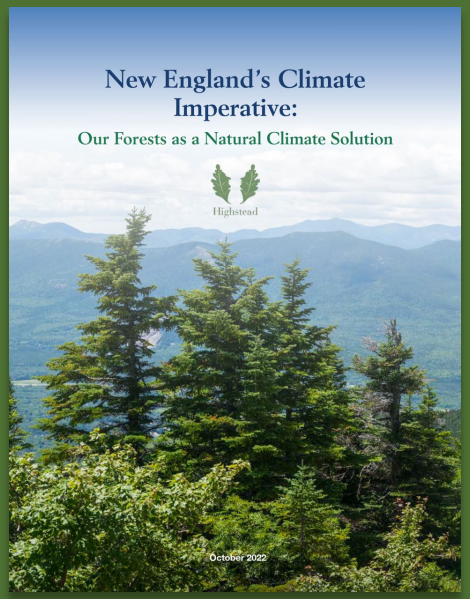
1. Introduction

The world's forests play a key role in mitigating climate change by both storing and sequestering carbon. Global forest ecosystems are estimated to store 861 Pg C, with 363 Pg C in live biomass (above and below ground; [1]). In addition, managed forests produce durable wood products that can store carbon and reduce greenhouse gas (GHG) emissions when they are substituted for alternative products with higher embodied emissions [2].

Forests already serve as a carbon sink globally, but recent work has demonstrated their capacity to do far more to mitigate climate change, and carbon markets are rapidly developing to incentivize a shift in management [3–5]. In contrast with other carbon sinks, such as blue carbon or peatlands, resource managers have more than a century of experience managing forests for a variety of outcomes, which can now include carbon storage [6,7]. Improved Forest Management (IFM) can lead to substantially increased carbon storage simultaneous with increased timber harvests, which allow for additional carbon storage in harvested wood products and reduced GHG emissions from substituting wood for more CO_2-emission-intensive materials [8]. This increase in carbon storage also produces a commodity product in terms of marketable carbon credits where markets exist, an increasingly common situation. While the specific opportunity will vary by forest type and region, studies indicate strong potential for increased climate mitigation in northeastern North America resulting from IFM in this region [9–11]. Additional analyses are needed to help document the scope and scale of such opportunities more broadly [7,12]. In this study,



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FORESTRY CAN BE GOOD FOR CLIMATE AND BIODIVERSITY

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Carbon
in the Forest

Production of
Forest Products

Biodiversity
and Wildlife

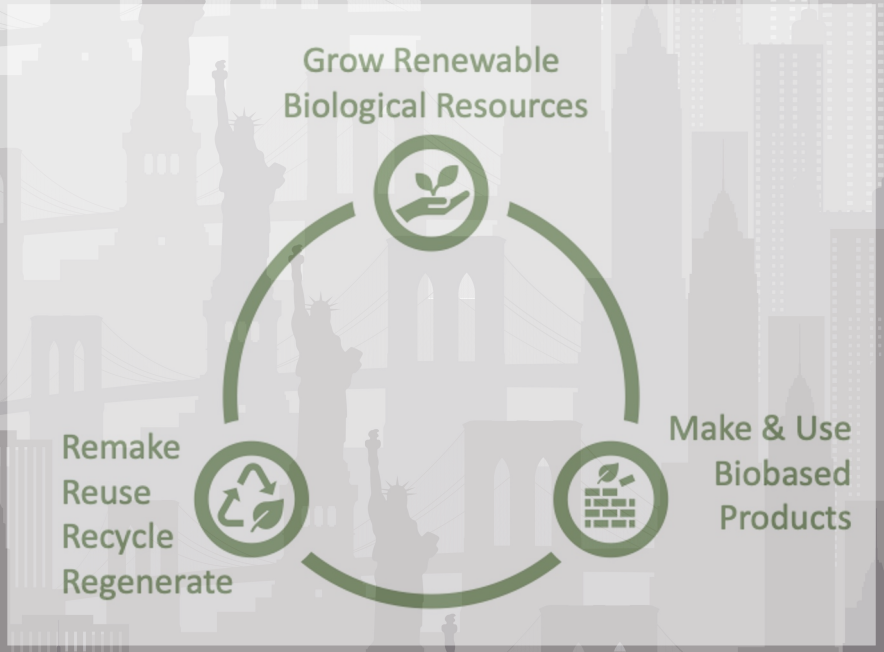
FORESTRY CAN BE GOOD FOR CLIMATE AND BIODIVERSITY

Carbon in the Forest

Production of Forest Products

Biodiversity and Wildlife

Building a Low-Carbon Bioeconomy



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Carbon economy

Bioeconomy

UBC Media Relations; Credit: Acton Ostry, CC BY-NC 2.0

Photo courtesy of TimberHP

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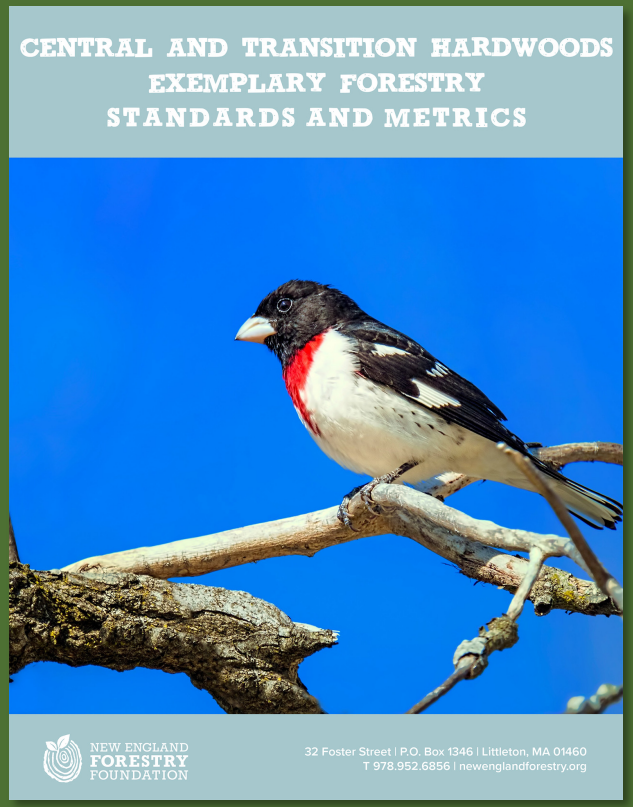
Climate-Smart Forestry: Silvicultural Approach

Climate-smart forestry applied through the program will integrate forest ecological health with the role forests play to absorb and store carbon, serving three combined outcomes:

- Improved wildlife habitat and biodiversity
- Increased carbon sequestration and storage
- Harvesting more sustainably produced wood

The forestry practices applied through the program will be informed by NEFF's Exemplary Forestry standards, management standards developed for the Family Forest Carbon Program, and modeling conducted for the Forest Carbon for Commercial Landowners effort.



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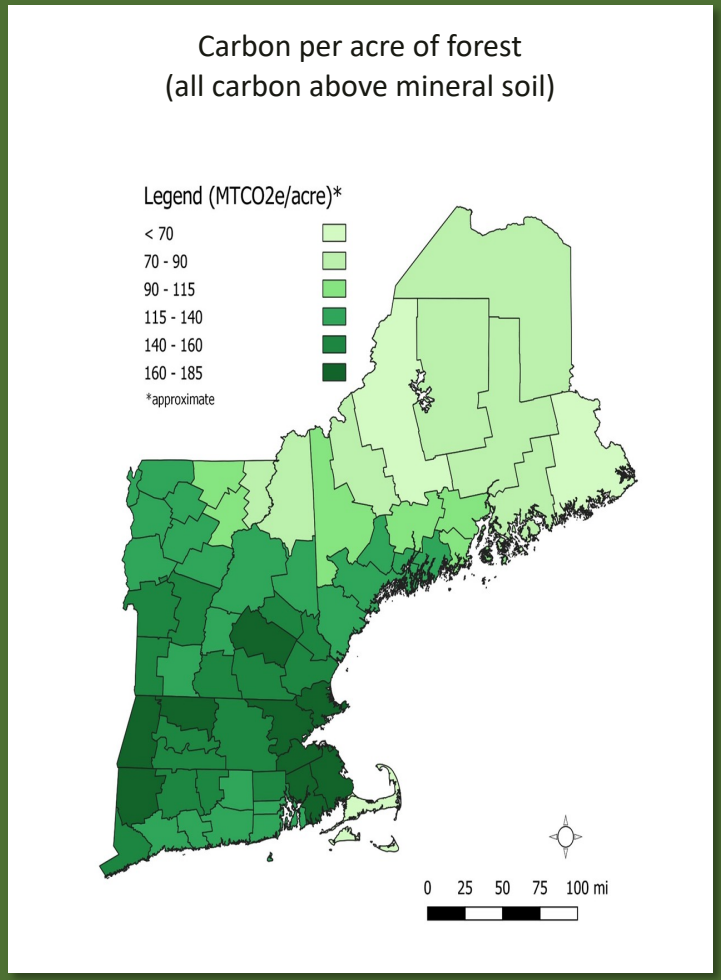
Major Carbon Sequestration & Storage Opportunity



Northern New England: Commodity production of pulp for bioenergy and paper has reduced average stocking and degraded many forest lands.

Southern New England: Decline of wood products industry has resulted in reduced harvests, with greater and greater carbon stocking, particularly near developed areas.

Same original stand regenerated at 40 years ago after a clearcut, on the same site within 100 yards of one another

No Treatment

Pre-Commercial Thinning 20 Years Ago

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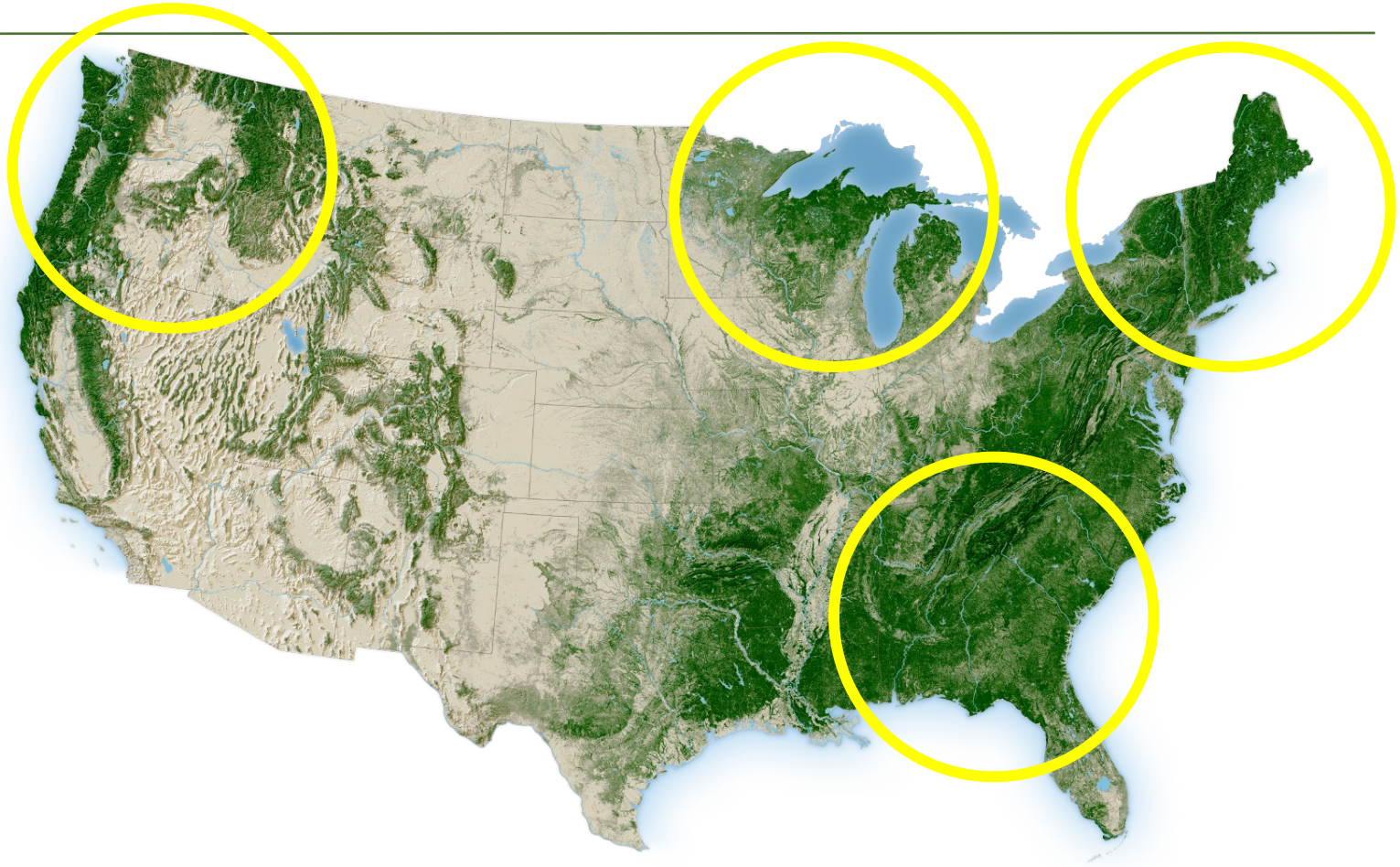
Forest Canopy Cover in the Contiguous United States



Source: United States Department of Agriculture (USDA) Forest Service

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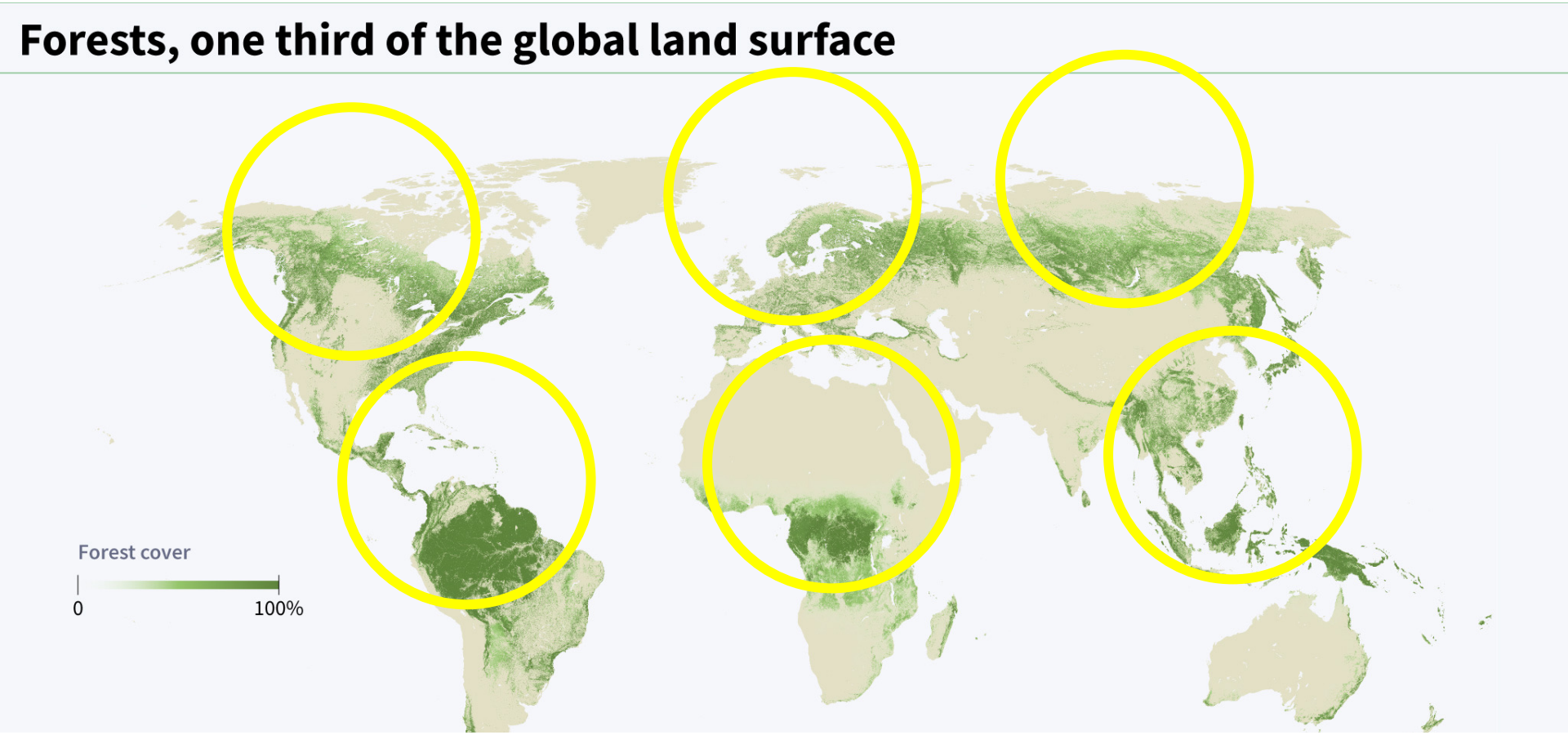
International Forest Canopy Cover



Source: Food and Agriculture Organization (FAO) of the United Nations

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Shaping Our Climate Future: New England Climate-Smart Forest Partnership

$30 Million Partnership

Climate-Smart Forestry Incentives

Market Expansion

Monitoring, Verification & Reporting

Michael Perlman

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Program Partners

Landowners, Foresters, Loggers: Participating Producers

- Seven Islands
- Weyerhaeuser
- Wagner Forest Management, Ltd.
- Baskahegan Land Company
- Robbins Lumber
- Passamaquoddy Forestry Department
- Mi'kmaq Nation
- The Nature Conservancy (Maine lands)
- Mohawk Trail Woodlands Partnership
- Massachusetts Tree Farm Program
- Hull Forestlands, L.P.
- Heyes Family Forests LLC
- Appalachian Mountain Club

Participating Loggers & Foresters

- Professional Logging Contractors Maine
- Trust to Conserve Northeast Forestlands
- Professional foresters & loggers

University of Maine Assistance With Program Design and Implementation

- University of Maine: Dr. John Daigle, Liaison to Maine's Penobscot Nation, Passamaquoddy Tribe and Mi'kmaq Nation
- University of Maine Advanced Structures & Composites Center
- Forest Policy & Economics – School of Forest Resources
- School of Forest Resources and Climate Change Institute
- Office of Innovation and Economic Development

Monitoring, Verification & Reporting

- American Forest Foundation – Family Forest Carbon Program
- Spatial Informatics Group
- Thomas Walker, Resource Economist
- Innovative Natural Resource Solutions

Commodity Markets

- Spiritos Properties, LLC (Mass Timber Developer)
- Leers Weinzapfel Associates (Architects)
- Quantified Ventures (Finance)
- WoodWorks (Mass Timber)

Supporting Organizations

- Forest Stewards Guild
- Mass Audubon
- Our Climate Common
- Highstead Foundation
- Massachusetts Forest Alliance
- Connecticut Forest & Park Association

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Partnership Advisory Committee

Advisory Committee to support project implementation and integration, and to provide expertise around key project elements.

Advisory Committee will be built around task-oriented working teams, including:

- Overall Design Team
- Silvicultural Practices Team
- Leakage Team
- Incentive Design Team
- Carbon Ownership Team
- Tribal Engagement Team
- Practice Verification Team
- Forest Products Tracking Team
- Monitoring Team
- Modeling Team
- Climate-Smart Sourcing Team
- Additional at-large members if needed

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Forestry Incentives

Climate-smart forestry incentive payments of approximately $15 million total.

Available to:

- Large and small private forestland owners
- First Nations
- Foresters & loggers

to implement uneconomic silvicultural practices that increase storage of carbon in the forest and in forest products

Program Area 1

Carbon Benefit Quantification

- Establish baselines to predict in-forest carbon benefits following application of climate-smart practices.
- Model increases in carbon stored in wood products and substitution benefits of wood vs. other materials.
- Third-party verification of the GHG benefits.

Program Area 2

Lauren Owens Lambert

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Market Building

- Define mass timber market potential and regional climate-smart wood supply.
- Provide mass timber technical guidance framework for affordable housing market.
- Design specifications for mass timber affordable housing.
- Conduct affordable housing outreach.
- Develop climate-specific ‘module’ to pilot climate-smart wood sourcing criteria and supply chain tracking for existing certification programs.

Program Area 3

Charlie Reinertsen

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From Pilot to Scale

USDA Pilot → Public/Private Funds → Implement at Scale

Build

(Design CS funding/financing)

- USDA CSC pilot program
  - Pilot CS incentives 70k acres
  - CS sourcing standards
  - GHG MRV
  - Mass timber markets
- Financial product design

Fund

(Secure funds/financing for CS incentives at scale)

- IRA, GHGRF, corporate investment
- Policy, outreach, stakeholders, communications
- Work at state, regional, national levels

Implement

(Implement at scale across NE)

- Commercial landowners
- Smaller landowners
- Loggers, foresters
- Wood products & markets
- MRV GHG outcomes
- Regional partnerships across US

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Flash Comments From Partners

- **Dan Hudnut** | Wagner Forest Management
- **Jeff Spiritos** | Spiritos Properties
- **Richard Campbell** | American Forest Foundation/FFCP
- **Ted Wright** | Trust for Conservation of North East Forests
- **Tim Stout** I Northam Forest Carbon

Discussion and Q&A With Webinar Participants

Please post your questions in the chat

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Participant Input to USDA

Please post your comments in the Q&A Box (and note question by #1, #2, #3

1.What excites you most about the New England Climate-Smart Forest Partnership in terms of building climate-smart markets for producers?

2.What are your biggest questions/concerns as the project begins?

3.What do you most want to learn and/or how do you hope to benefit from engagement in the Partnerships Network?

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Questions for Project Team

Please post questions for the project team in the Q&A Box

Team members will address a few of the most interesting & illustrative questions
(from more than 250 participants)

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USDA Climate-Smart Commodities Webinar

Partnerships for Climate-Smart Commodities Projects Launch Event

WHEN:	Thursday, April 27 at 11 a.m. EST
WHAT:	Virtual Kick-off Event for Partnerships for Climate-Smart Commodities Projects
WHO:	USDA leadership and other invited speakers
Registration:	**USDA Climate-Smart Commodities website**

NEFF will provide a follow-up email with USDA CSC Webinar Registration link

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Remember:
In the Climate Emergency, Forests Offer Hope

Private forests are climate mitigation powerhouses—the U.S. EPA Greenhouse Gas Inventory shows 84% of current carbon sequestration is happening on private forestlands.

The IPCC has made it clear that carbon dioxide removal is key to climate goals, and that forest management holds the key.

New England is positioned to lead the way on incentivizing climate-smart forestry for the future of our forests and our climate.

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Charlie Reinertsen

Thank You

Contacts for New England CSC Partnership Project

- **Alec Giffen** | alecgiffen@gmail.com
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- **Robert Perschel** | rperschel@newenglandforestry.org
- **Lisa Hayden** | lhayden@newenglandforestry.org
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