



NEW ENGLAND
FORESTRY
FOUNDATION

NORTHEAST



WILDERNESS
TRUST

*Saying Yes to Wildlands (Wilderness) and Woodlands
(Forestry)*

A serene landscape photograph of a river winding through a dense forest. The water is calm, reflecting the surrounding trees and the sky. A thick layer of mist or fog hangs over the river, creating a soft, ethereal atmosphere. The trees on the left bank are in the foreground, with some showing early autumn colors of yellow and green. The background is filled with a dense forest of tall, thin trees, likely pines or spruces, under a bright blue sky with wispy white clouds.

Bob contemplates
wildlands

Jon contemplates woodlands

The 30% Solution: Advancing Climate Solutions by applying Exemplary Forestry at scale



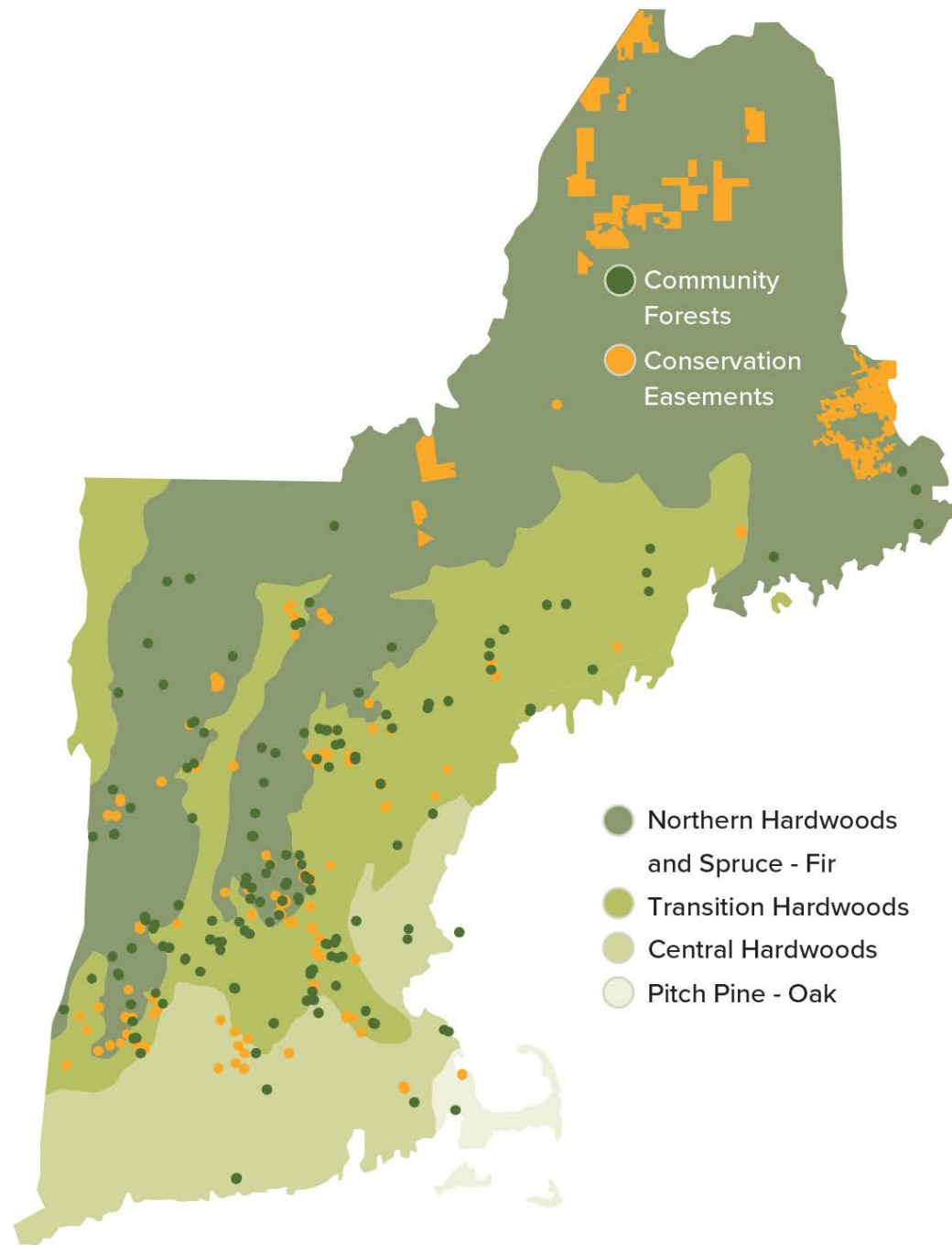
NEW ENGLAND
FORESTRY
FOUNDATION

NEW ENGLAND FORESTRY FOUNDATION

- ❖ **More than 70 years of forest conservation and advocacy for sustainable forest management**
- ❖ **Protected 1 of every 3 acres conserved over past 15 years**
- ❖ **Over 1.1 million acres under easement**
- ❖ **Endorsed Harvard's Wildlands and Woodlands vision to maintain 70% of New England as forest, 90% of that as working forest**

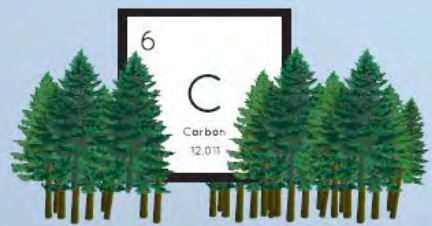


NEFF's forestry footprint



“Climate scientists have quietly begun to converge on a stark conclusion: the window in which cutting emissions by reducing the use of fossil fuels alone can reverse climate change has essentially closed. To keep temperatures on the planet from rising 2C above preindustrial levels, the stated goal of the 2016 Paris Agreement, **humanity will also have to swiftly develop ways to remove carbon from the atmosphere”**

CARBON STORAGE



+

SUBSTITUTION



+

BIOPHYSICS



=

CLIMATE IMPACT



FORESTRY CAN BE GOOD FOR CLIMATE AND BIODIVERSITY



**Production of
Forest Products**

FORESTRY CAN BE GOOD FOR CLIMATE AND BIODIVERSITY



**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**

FORESTRY CAN BE GOOD FOR CLIMATE AND BIODIVERSITY



30% SOLUTION

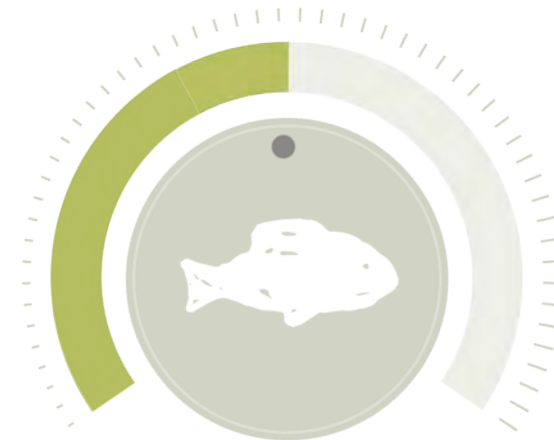
NET POSITIVE



**Carbon
in the Forest**



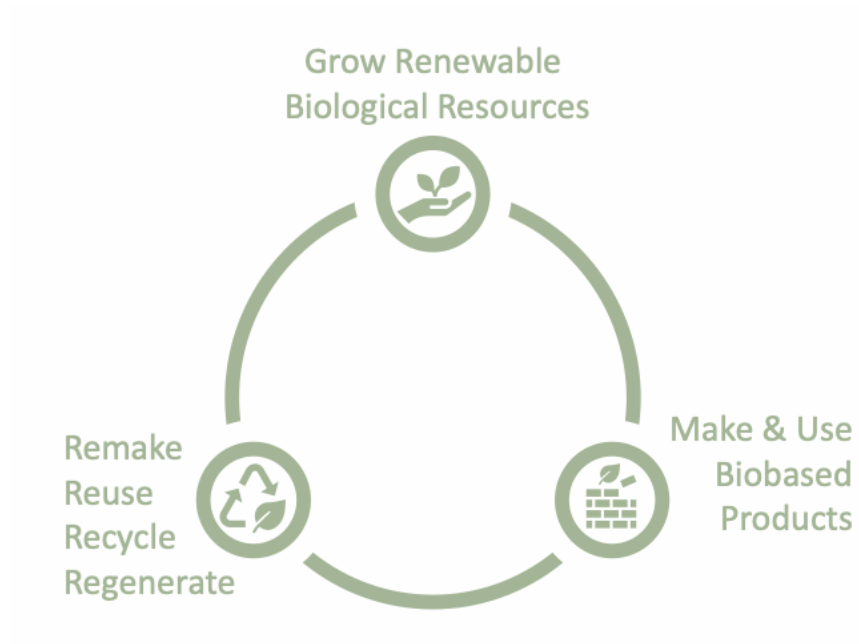
**Production of
Forest Products**



**Biodiversity
and Wildlife**



Building a Low-Carbon Bioeconomy



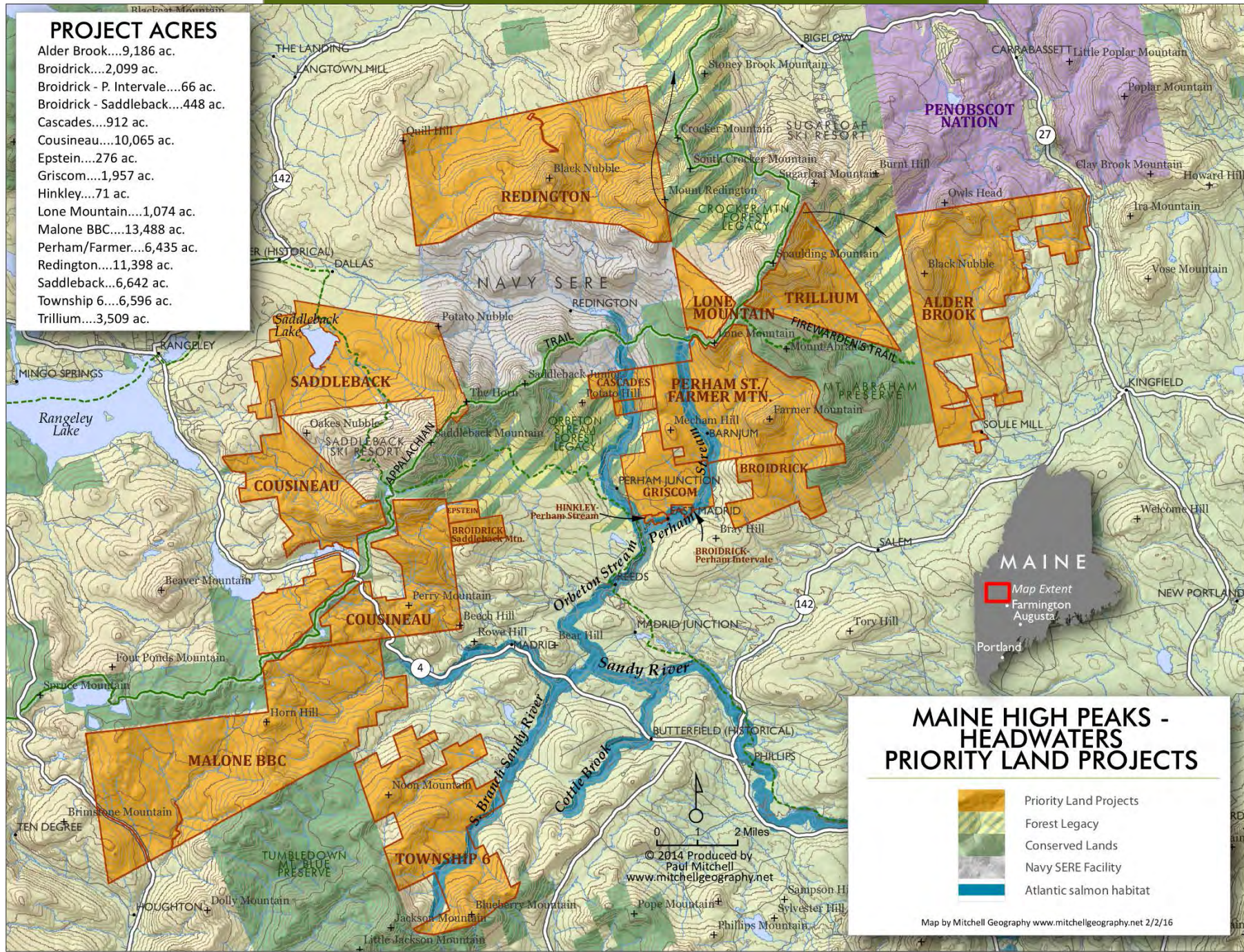
Global Forest Loss: Temperate Mixed Forest



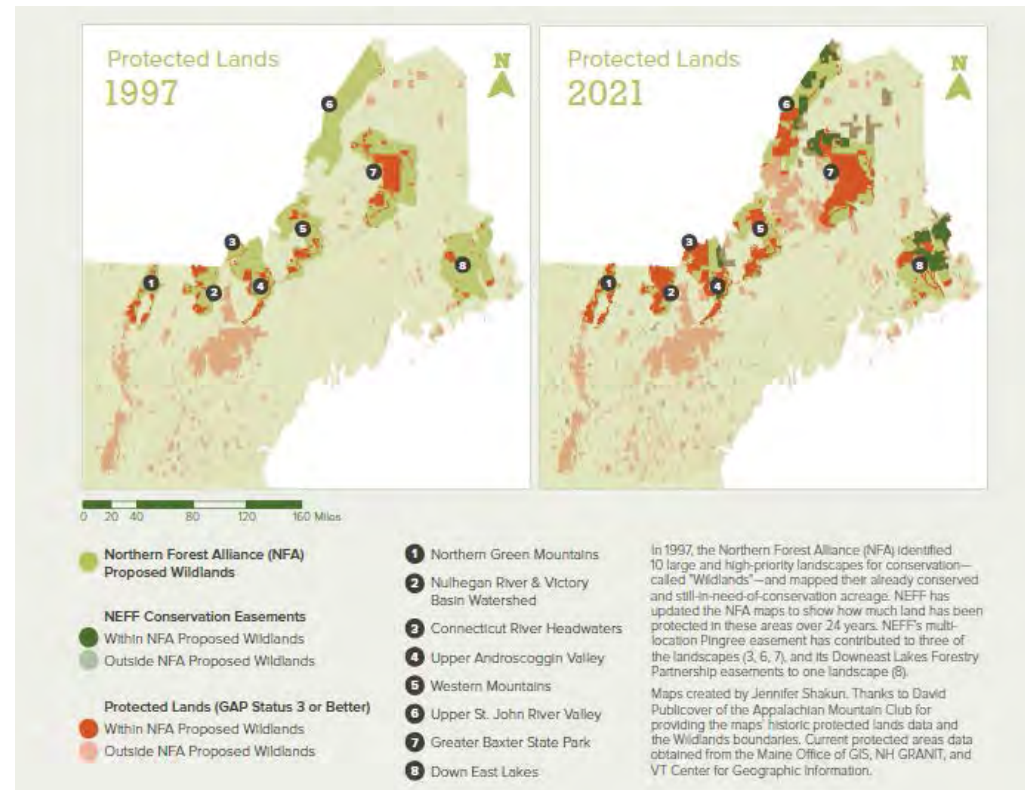


PROJECT ACRES

- Alder Brook....9,186 ac.
- Broidrick....2,099 ac.
- Broidrick - P. Intervale....66 ac.
- Broidrick - Saddleback....448 ac.
- Cascades....912 ac.
- Cousineau....10,065 ac.
- Epstein....276 ac.
- Griscom....1,957 ac.
- Hinkley....71 ac.
- Lone Mountain....1,074 ac.
- Malone BBC....13,488 ac.
- Perham/Farmer....6,435 ac.
- Redington....11,398 ac.
- Saddleback....6,642 ac.
- Township 6....6,596 ac.
- Trillium....3,509 ac.

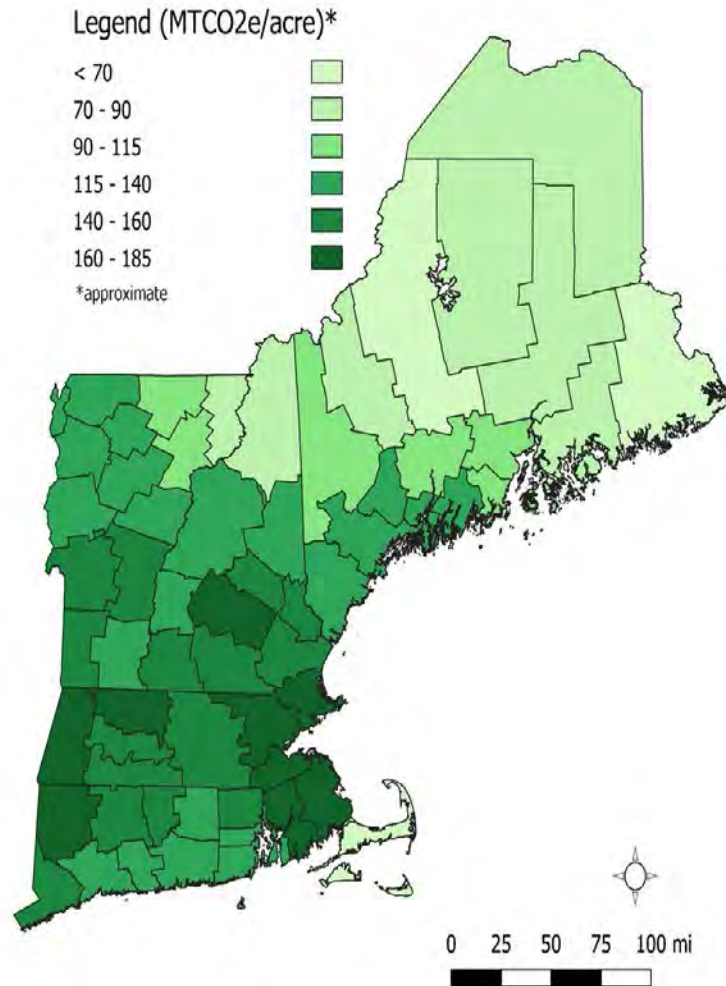


NEFF's contributions to large landscape conservation



But not all forest land is well stocked

Carbon per acre of forest (all carbon above mineral soil).



☀ Northern New England

- Commodity production of pulp for bioenergy and paper has reduced average stocking and degraded many forest lands.

☀ Southern New England

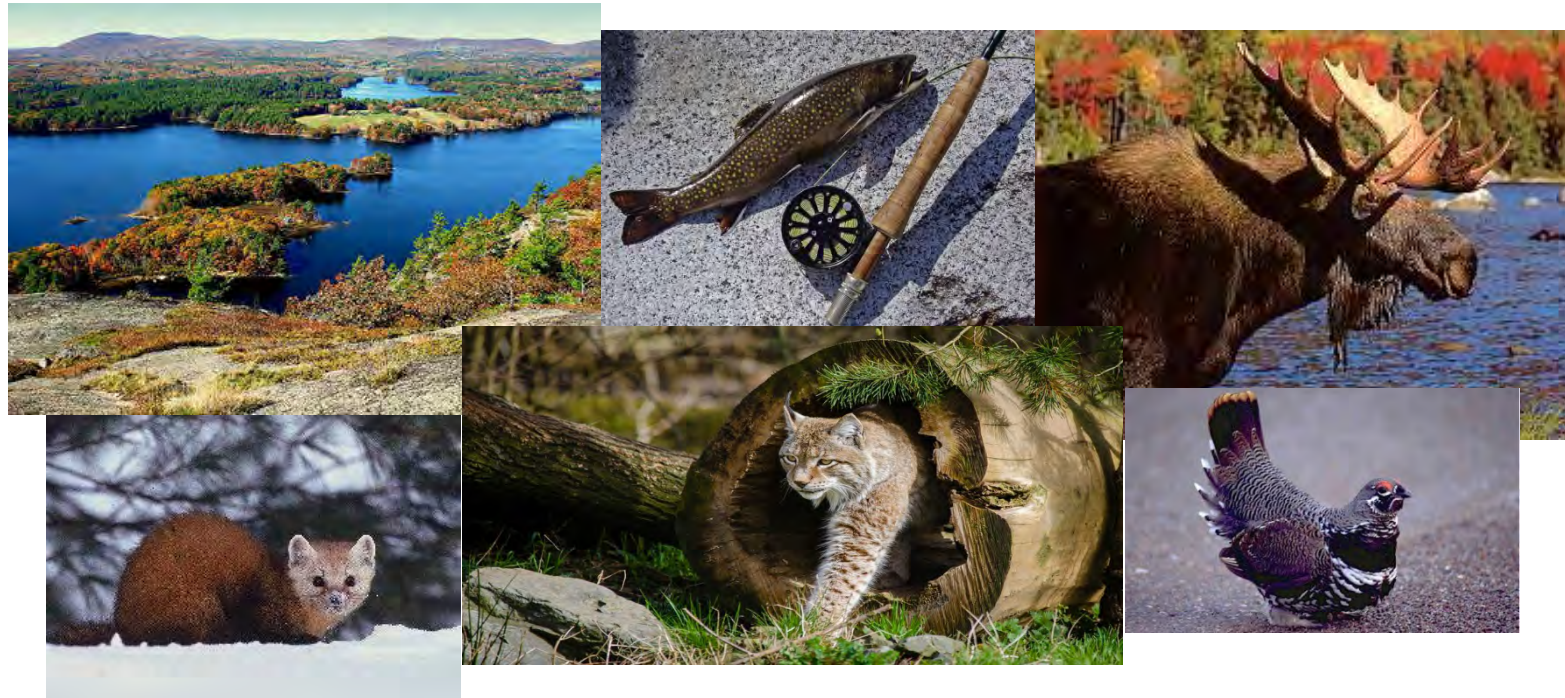
- Decline of wood products industry has resulted in reduced harvests for decades, with greater and greater carbon stocking in the woods, particularly near developed areas.

☀ Region-wide

- Divergent problems, with different opportunities.

The Goals of Exemplary Forestry

- Mitigate climate change
- Produce more and better timber
- Improve wildlife habitat



Defining Exemplary Forest Management in the Acadian Forest

As stated earlier, these guidelines are for actively managed lands rather than ecological reserves (also an important part of the lands) and are intended to be implemented in the context of the landscapes where NEFF’s lands occur. Thus, for example, one kind of habitat may be missing in a particular landscape and quite a different habitat in another landscape. Likewise, maintaining connectivity between habitats across the landscape is also important and will influence implementation on any given parcel. In addition to implementing these standards, NEFF intends to maintain dual third-party certification of its lands. With these understandings, Exemplary Forestry includes:

1. **Implementing Best Management Practices to protect and improve forest conditions.** Employing accepted “Best Management Practices” to protect soils, riparian and aquatic habitat, special habitats, wildlife trees, etc. (see the section which follows on this topic).
2. **Implementing advanced silviculture.** Practicing forestry which results in:
 - a. **Continuously improving forest stands** over time in terms of both quality and quantity.
 - b. **Conditions which are well suited to the umbrella wildlife species** known to be representative of the habitat needs of more than 75% of native species.

Umbrella Wildlife Species	Percent of Landscape	Forest Stand Condition Described
American Marten	16%	Blocks of at least 640 acres that are at least 80% stocked at over 80 ft ² of basal area (approximately 16 cords/acre)
Canada Lynx	27%	Even-aged blocks \geq 15 acres in size which are regenerated to spruce and fir on a revolving schedule.

- c. A **diverse size class distribution** of 5-15% of stands in seedlings, 30-40% in saplings and poles, 40-50% sawtimber (DeGraaf, et al. 2005) (including 10% of the total area in large diameter multi-storied stands [see also Ten Broeck 2018]—note 9% of NEFF’s existing lands are, or will become, such stands over time).
 - d. **Growing tree species well-suited to each site**, (e.g., matched to soil and physiographic conditions as well as expected changes in climatic conditions).
 - e. **Stocking that fully occupies the sites**; this is an average at least “B” line stocking for stands not currently being regenerated. For example, in 8-10” diameter stands of mixed wood this would be approximately 20 cords/acre.
 - f. **Growing and harvesting quality timber** at an average of 0.5 cords/acre/year, and targeting increasing the stocking of high-quality products.
3. **Addressing climate change** as the knowledge base becomes available, and increasing the resistance and resilience to, adaptation for, and mitigation of, climate change. This includes but is not limited to using forests and forest products to sequester more carbon and substitute for steel and concrete, thereby reducing greenhouse gas emissions.
4. **Diversifying management approaches.** To the extent that site conditions and the landscape context allow, NEFF intends to manage significant portions of its properties using both the even- and uneven-aged management approaches described earlier.
5. **Aesthetics.** Public support for forest management depends in many cases on how forests look. In this regard, NEFF intends to manage its lands to maximize aesthetic benefits particularly in key areas (e.g., attractive roadsides, trails and shorelines) and minimize adverse effects (e.g., careless looking harvests).

Exemplary Forestry Improves Wildlife Habitat



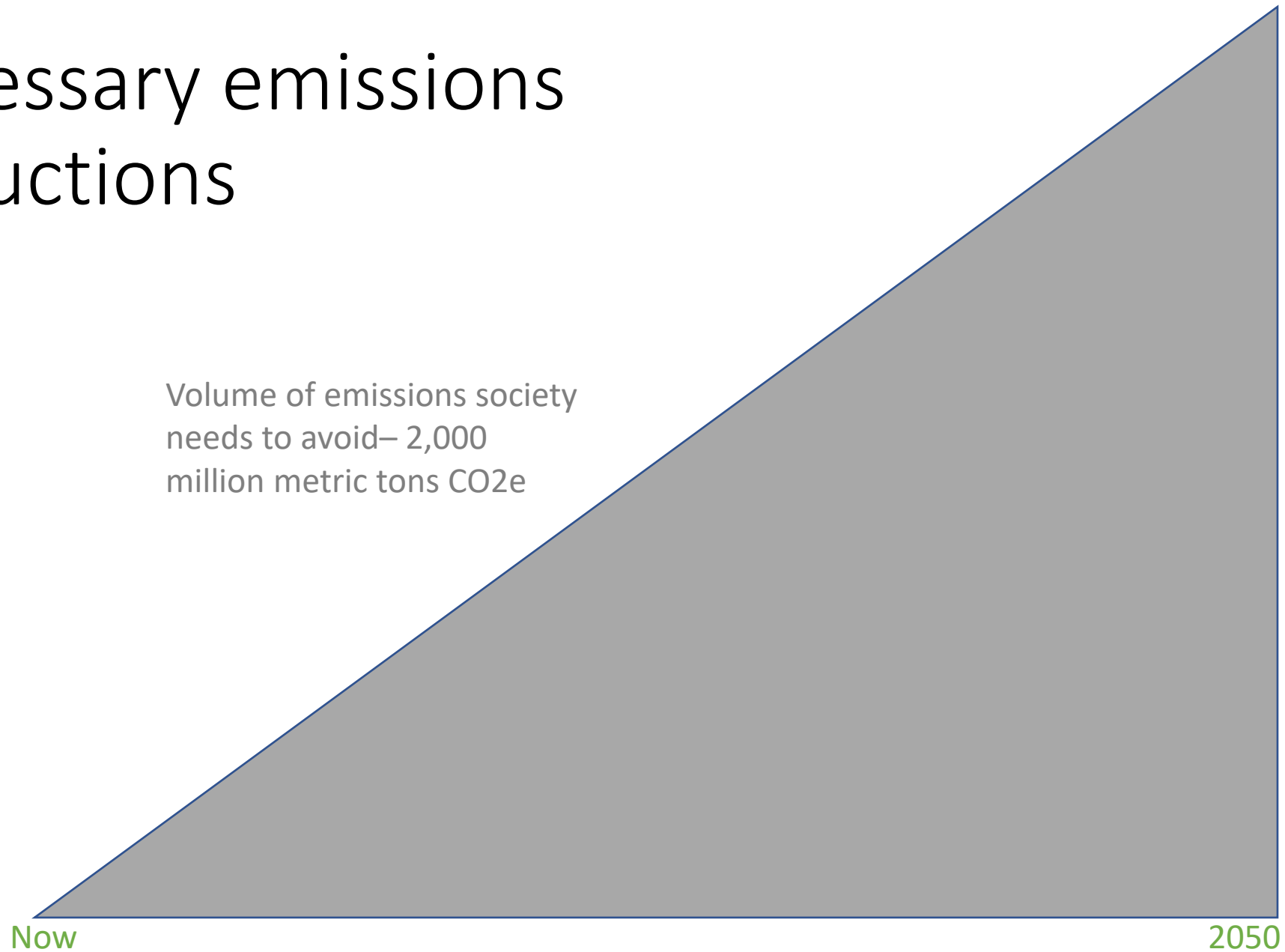
American marten need continuous cover >640 acres/block



Canada lynx need >15 acre patches of spruce/fir regeneration

Meeting the habitat needs of these two species provide habitat for 84+% of Maine's vertebrate wildlife

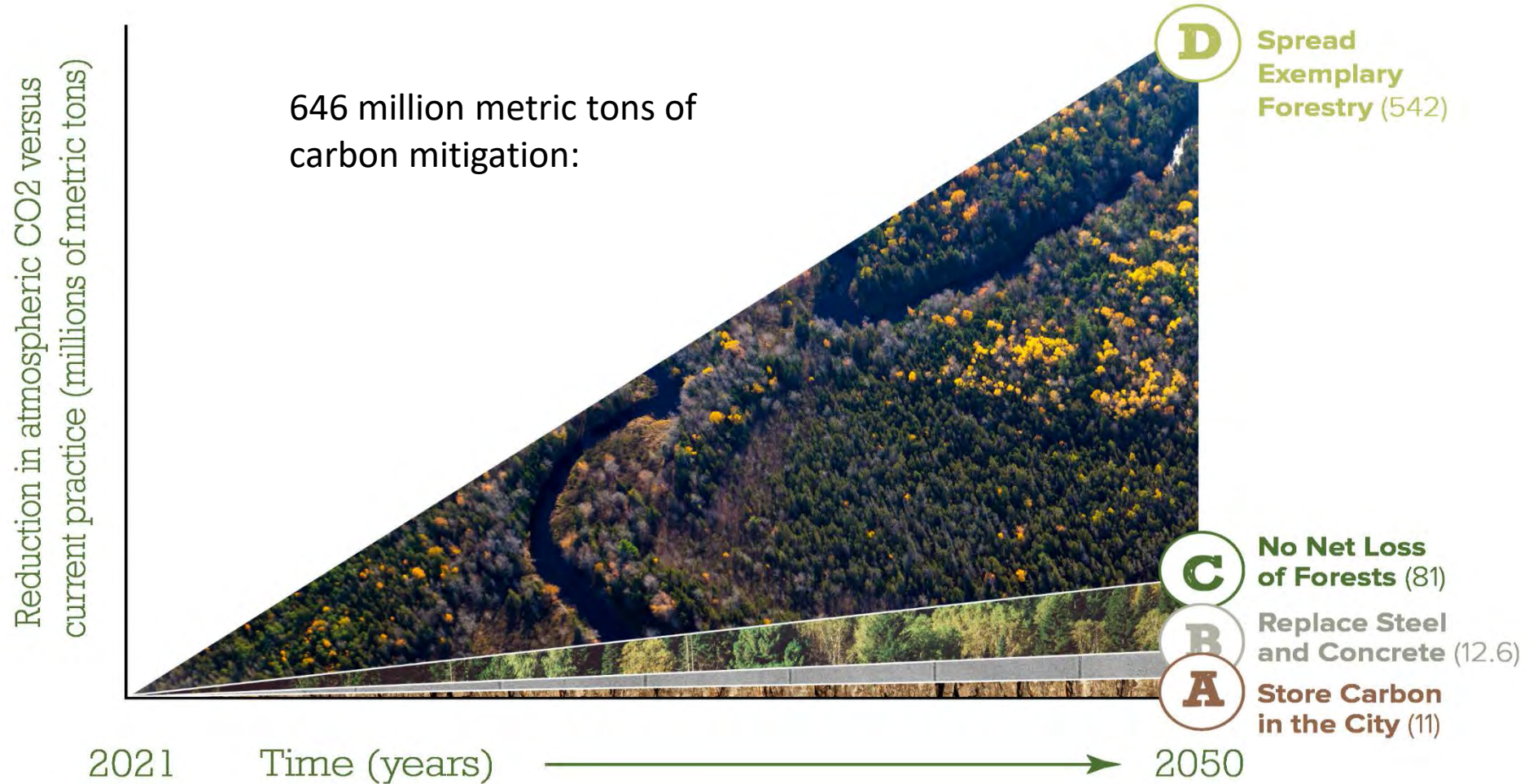
Necessary emissions reductions



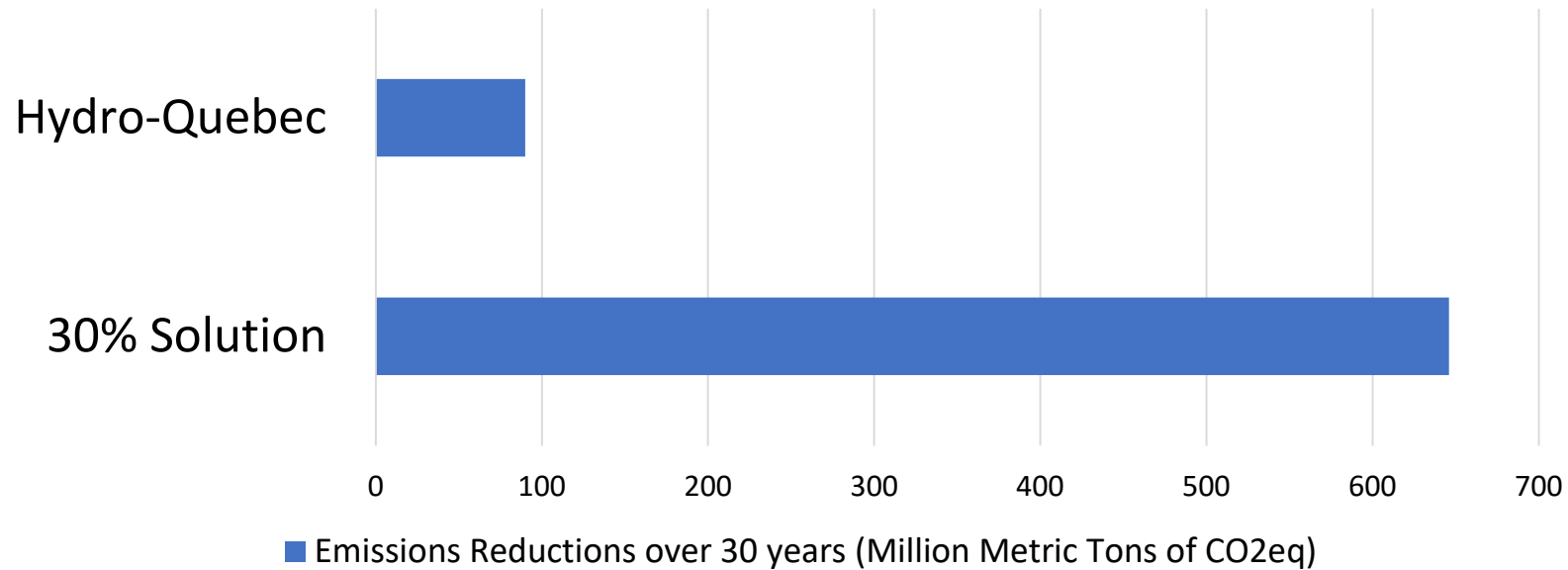
The 30% Solution



Forests, Cities and Climate: A Systems Approach



The Scale of Opportunity



NEFF's 30% Solution provides...

- ✓ *Better Forests*
- ✓ *Affordable Housing*
- ✓ *Biodiversity*

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





UBC Media Relations - Credit: ActionOstry, CC BY-NC 2.0

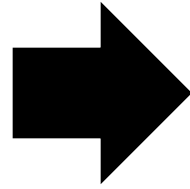


Photo courtesy of TimberHP

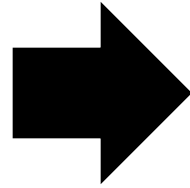
MASS TIMBER & ENGINEERED WOOD PRODUCTS



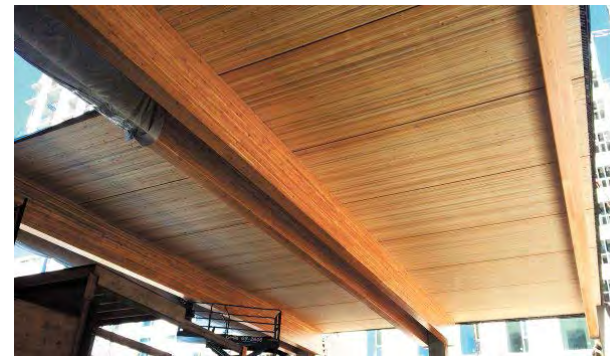
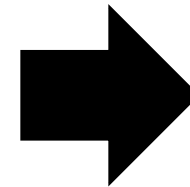
Glulam



CLT



NLT



EXAMPLES FROM AROUND THE WORLD



University of British Columbia
Vancouver, Canada



Forte Building
Melbourne, Australia



Stadthaus at Murray Grove
London, England



LifeCycle Tower One
Dornbirn, Austria

USDA Partnerships for Climate-Smart Commodities

New England Climate-Smart Forest Partnership



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
- Eric Kingsley, Innovative Natural Resource Solutions, LLC

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

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

Forest Canopy Cover in the Contiguous United States



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

International Forest Canopy Cover

Forests, one third of the global land surface



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

NORTHEAST



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PARTNERING WITH NATURE TO REWILD THE NORTHEAST

What, Why, and How



Source:
indigamerica.blogspot.com





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Rewilding

Rewilding restores ecosystems and the life-supporting functions they provide.

“Rewilding, in essence, is giving the land back to wildlife and wildlife back to the land” John Davis

“Rewilding is ultimately about relationships. It’s about restoring natural processes, core wilderness areas, corridors between these areas, and relationships that have been in place for millennia, or in some cases for millions of years. These processes and relationships are profound, and acknowledgment of these processes is embedded in Indigenous peoples’ relationships with the world” Christina Eisenberg



What *is* Wilderness?



WILL-OF-THE-LAND: Wilderness Among Primal Indo-Europeans*

Jay Hansford C. Vest

Nature's object in making animals and plants might possibly be first of all the happiness of each one of them, not the creation of all for the happiness of one. Why ought man to value himself as more than an infinitely small composing unit of the one great unit of creation? . . . The universe would be incomplete without man; but it would also be incomplete without the smallest transmicroscopic creature that dwells beyond our conceitful eyes and knowledge.

John Muir 1916'

When the Scottish born John Muir embraced the wilderness movement in America he was answering the call of his cultural tradition. Muir and the Scottish peoples are members of the Celtic division of the Indo-European linguistic group. The ancient Celts worshipped Nature. There was a spiritual tradition born of "Nature Awe."¹ For them Nature was alive with the same creative life force that humans share. Nature spirits animated springs, rivers, forests, and mountains. The Celtic conception of *will power* was extended wholly to nature, both animate and inanimate, which was recognized to have a compelling *will-force* "akin to that which impelled man . . . Even stationary nature — the everlasting hills and the

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Wilderness is not simply a special kind of place, but rather a special commitment we make to a place. That commitment is freedom—to animals, and to the natural processes that produce integrity, beauty, and diversity of the land community.



Why?

Intrinsic Value

Biodiversity

Carbon Storage

Resiliency

Solace and Reflection

Baseline



How Much?

“By protecting nature generously, and simultaneously contracting and transforming the human enterprise, we can create the conditions for achieving justice and well-being for both people and other species. If we fail to do so, we instead accept a chaotic and impoverished world that will be dangerous for us all.”

Thank you

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