

A photograph of a dense forest with sunlight filtering through the trees. The image shows a variety of tree trunks and branches, with some green foliage visible in the background. The lighting is soft and natural, creating a serene atmosphere.

The Family Forest Carbon Program: Climate-smart forestry and guidance for small family forests

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We know how to solve climate change...

- REDUCE EMISSIONS



- REMOVE EMISSIONS



- ADAPT TO EMISSIONS



Nature-Based Solutions

Projects that use nature to solve a problem (protect public health and clean water, to increase natural hazard resilience, sequester carbon)



Nature-based
solutions

Natural
climate
solutions

NATURAL CLIMATE SOLUTIONS

Protect, restore & better manage

forests, farms, grasslands, & wetlands

to **reduce** and/or **remove** carbon emissions.



One of the largest opportunities in New England is climate-smart forestry



Climate-smart forestry:

maintains or increases
forest carbon stock,
and
maintains or improves
forest resilience (ability
to ‘bounce back’ from
climate change impacts)

Focuses on carbon,
but...



Climate-smart forestry is “smart” for many reasons, with carbon perhaps the newest, but usually not the most important

The Nature Conservancy's St. John preserve, Westhampton

How we developed climate-smart practices

ONE

Scientific
Literature Review (2020)



TWO

Consideration of Regional
Context of Forest Management
Practices (2020)



THREE

Evaluation & Refinement
by a Team of Experts
(2020/21)

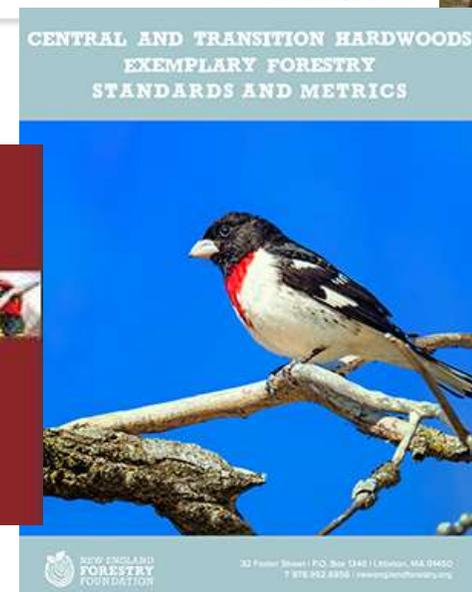


Stakeholders: Massachusetts & Vermont

- Northern Institute of Applied Climate Science
- MA Executive Office of Energy & Env. Affairs
- MA Dept. Conservation & Recreation
- VT Forests, Parks, & Recreation
- Private foresters
- Sawmill operator/ logger
- Family forest owner
- Carbon project verifier
- Harvard Forest
- University of Massachusetts Amherst
- University of Vermont
- Franklin Land Trust
- US Fish and Wildlife Service
- MA Forest Alliance
- VT Woodlands Association
- Massachusetts Woodland Institute
- Franklin County Regional Council of Governments
- Berkshire Regional Planning Commission
- Mass Audubon
- Audubon Vermont
- New England Forestry Foundation
- The Nature Conservancy
- Forest Stewards Guild
- Vermont Land Trust

“One List to Rule Them All”

- Protect Forests
- Grow New Forests and Trees
- Reduce Stressors
- Manage Forests



Keep the Forests We Have

- **Avoid forest loss** – Reduce or eliminate the conversion of forest to non-forest land types.

MOST IMPORTANT THING!

Also, note: this costs money, as do many of the climate-smart practices. We need ways to pay small, private, family forest owners who own most of the forest in New England.



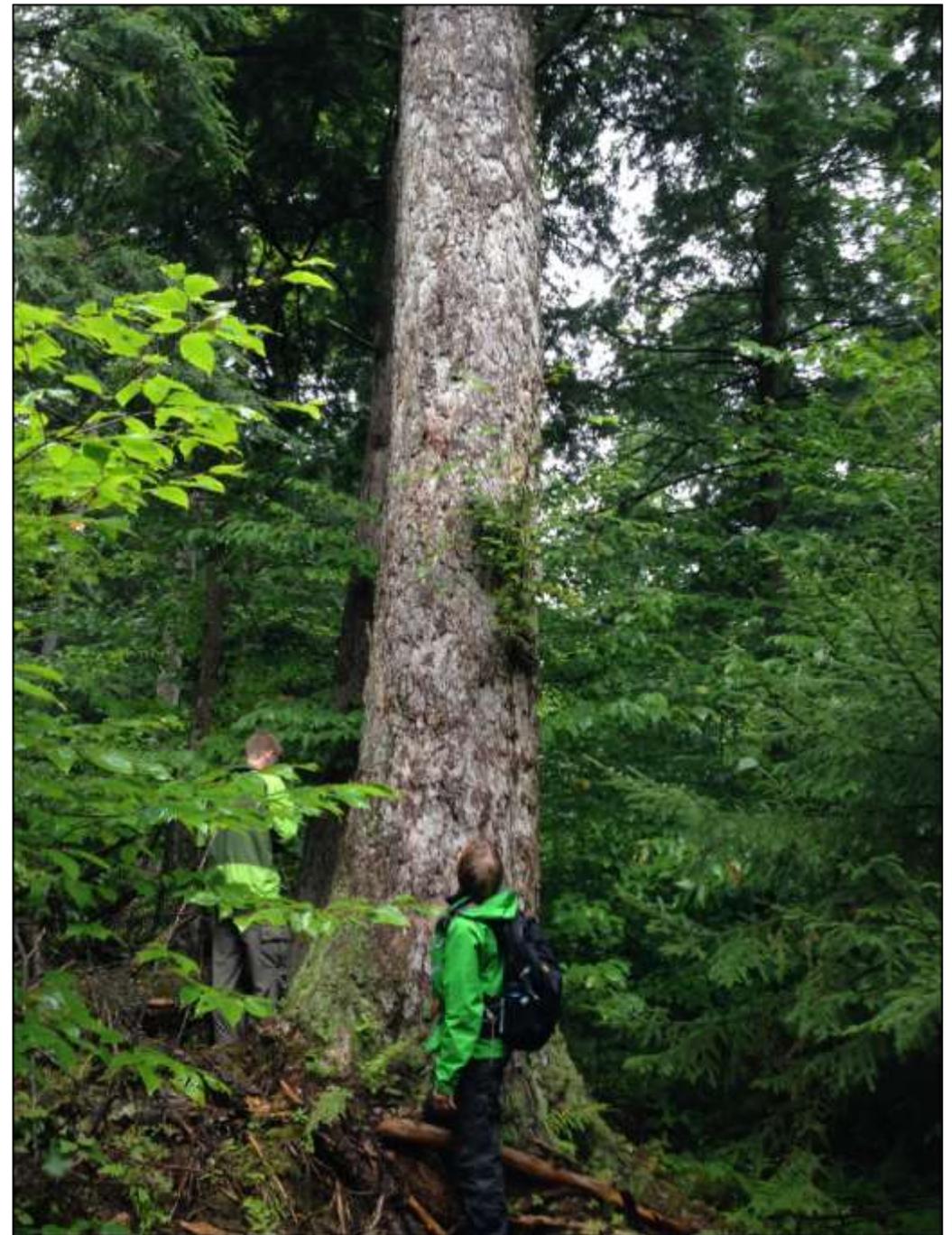
4 of these practices are included in the FFCP

Grow
Older
Forests

- **Establish forest reserves** – protect refugia and rare and sensitive sites
- **Increase time between harvests** – extend cutting cycles

Enhance
Your
Woodland

- **Create gaps to promote regeneration** – balance of gaps to regenerate the forest and retention areas, with biodiversity safeguards
- **Retain more carbon in a thinning** – thin the forest to increase growth of remaining trees and increase diversity and structure, with retention areas



The Family Forest Carbon Program

A joint effort between American Forest Foundation and The Nature Conservancy

www.familyforestcarbon.org



How Does the Family Forest Carbon Program Work?

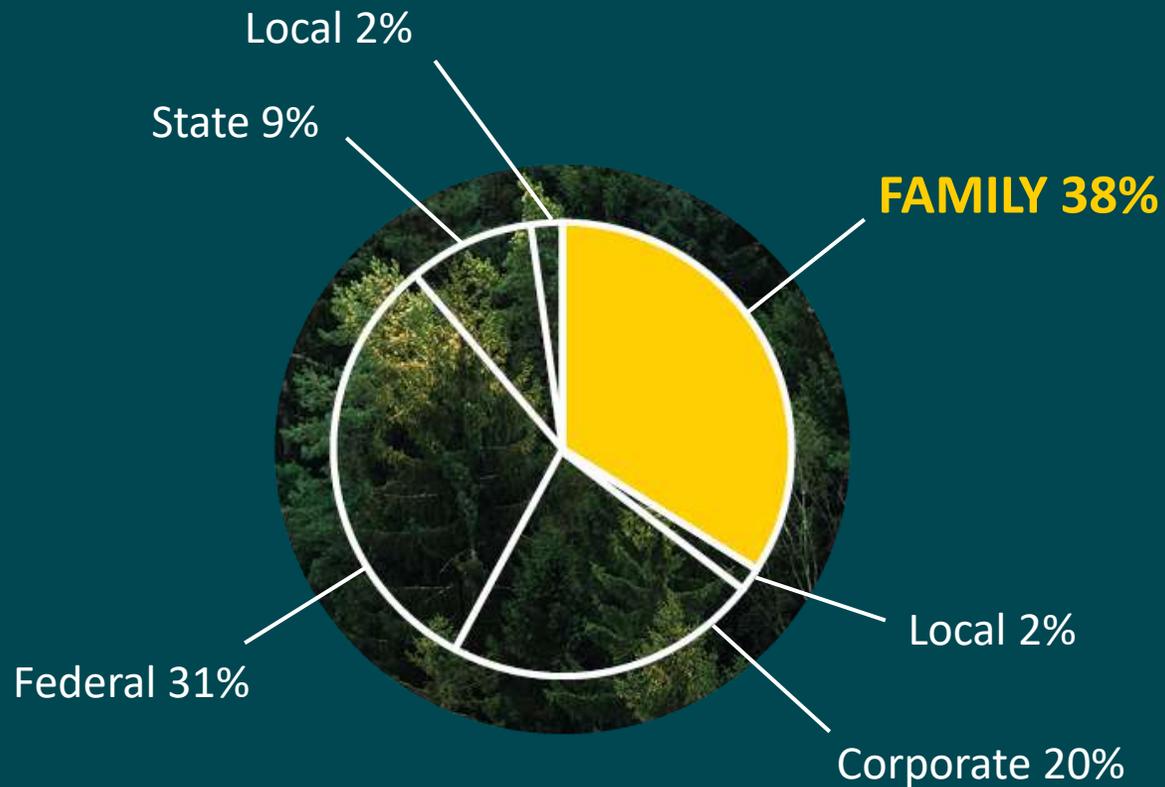


The Nature Conservancy
Protecting nature. Preserving life.



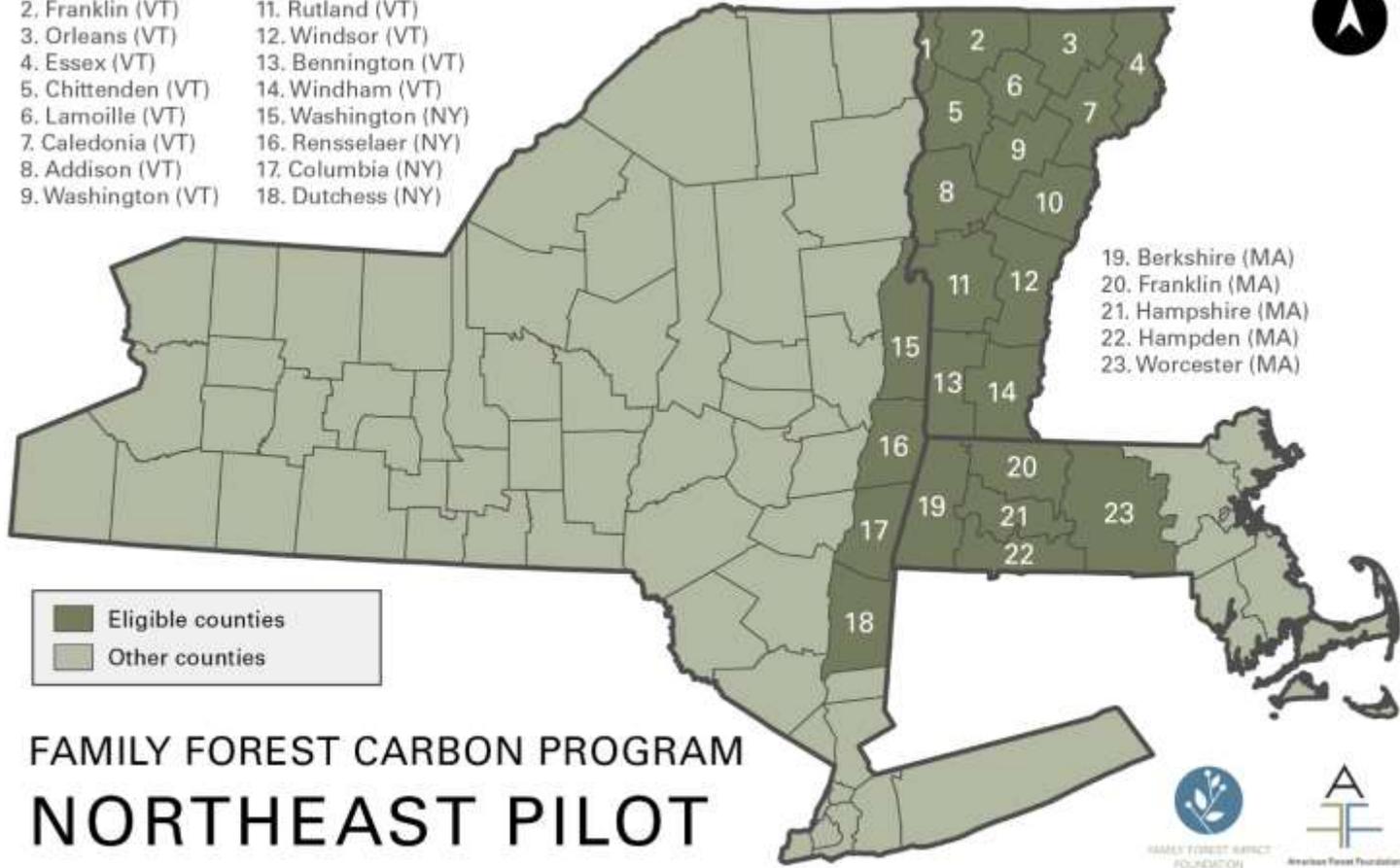
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Family-owned Forests are Key



- Families and individuals own the largest portion of U.S. forests
- Ownerships with less than 1,000 acres account for 80% of the acres but less than 1% of carbon projects.
- This ownership group is vital for achieving meaningful conservation impact at scale

- 1. Grand Isle (VT)
- 2. Franklin (VT)
- 3. Orleans (VT)
- 4. Essex (VT)
- 5. Chittenden (VT)
- 6. Lamoille (VT)
- 7. Caledonia (VT)
- 8. Addison (VT)
- 9. Washington (VT)
- 10. Orange (VT)
- 11. Rutland (VT)
- 12. Windsor (VT)
- 13. Bennington (VT)
- 14. Windham (VT)
- 15. Washington (NY)
- 16. Rensselaer (NY)
- 17. Columbia (NY)
- 18. Dutchess (NY)



- 19. Berkshire (MA)
- 20. Franklin (MA)
- 21. Hampshire (MA)
- 22. Hampden (MA)
- 23. Worcester (MA)

- Eligible counties
- Other counties

FAMILY FOREST CARBON PROGRAM NORTHEAST PILOT

County boundaries sourced from the United States Census Bureau in 2021.

Last updated: Oct. 29, 2021, by Lynn Riley, lriley@forestfoundation.org



Who is Eligible to Participate?

- Private individuals or entities
- Property under same ownership is located within eligible project areas
- Have a minimum of 30 acres or more of eligible northern hardwood forest (no plantations) to enroll
- Have minimum volume and stocking requirements
- Have legal right to commercially harvest

What are a landowner's next steps?

- Go to familyforestcarbon.org website to check out your property
- Discuss your eligibility and the process further with our staff
- If needed, schedule a free visit by a forest professional to provide expert consultation and data gathering
- Get advice on the eligible FFCP practices most suitable to your forest stands and personal situation



Grow Older Forests

- Defers timber harvest for 20 years to increase total carbon stocks and grow trees into larger size classes, retaining higher carbon stocks on-site.
- Must carefully consider compatibility with current use program
- Allows for minimal harvest for firewood for personal use, and with approval, salvage resulting from storm events, controlling a novel pest or pathogen, and competing vegetation
- Requires the retention of any downed wood on site
- Allows for control of deer and moose browse

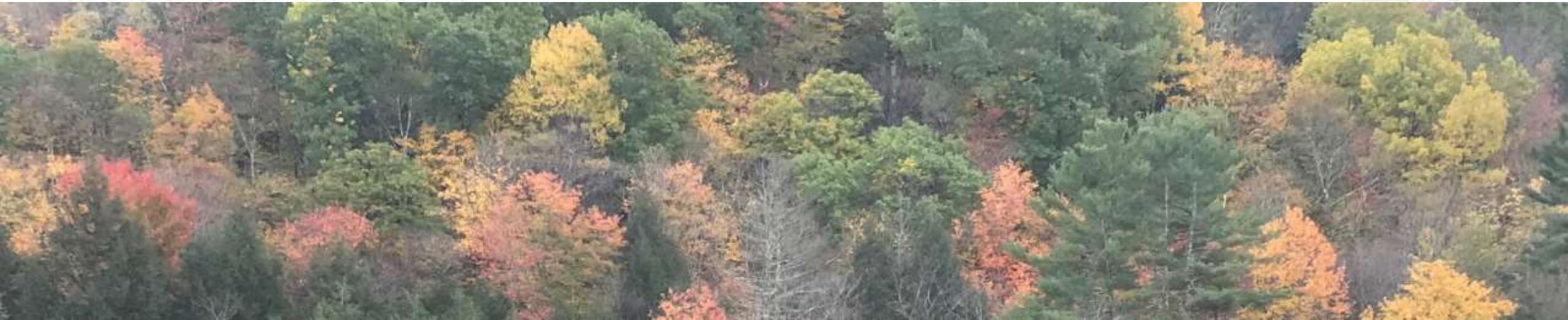


Enhance Your Woodland

- A thinning and/or a gap harvest can be applied
- Requires retention zones that are left unharvested
- Caps the total amount of basal area removed
- Requires biodiversity safeguards like snag retention
- Allows for personal firewood harvest

Key Prohibitions:

- A reduction of more than 25% of the Basal Area per acre in any individual Harvest or cumulatively over time
- A reduction of more than 15% of the Basal Area in the entire area enrolled in this practice
- A reduction of more than a 10% in the aggregate (in an individual harvest or cumulatively over time) of the Quadratic Mean Diameter of the Harvest Area as set forth in the Initial Timber Assessment
- A reduction of more than a 10% in the Quadratic Mean Diameter determined in accordance with the most recent forest inventory for the Harvest Area
- The creation of a gap in the forest canopy larger than 5 acres
- Retaining fewer than 4 large tree per acre within harvested areas
- Removal of any tree within 50 feet of any intermittent and perennial streams with defined banks, spring seeps, lakes, ponds, and/or vernal pools within the Contract Area



What are a landowner's final steps?

- Get an estimate of payments depending on eligible forest stands and practices applied
- Review and sign a contract

Contract Key Terms:

- 20-year commitment
- Maintain a forest stewardship plan no more than 10 years old
- Update us on major changes and harvest plans; complete a reporting form every five years.
- FFCP will own the rights to the carbon in the project area.
- We may visit the property periodically to conduct monitoring.



How a Landowner Benefits

- Annual payments throughout the 20-year contract period totaling \$200-300 per acre; 20% upfront.
- Resources and payments to support the creation of or required updates to a forest management plan customized to meet their unique goals.
- Support to utilize other resources to meet their goals



How do we ensure FFCP meaningfully sequesters carbon?

The Nature
Conservancy 
Protecting nature. Preserving life.



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— Key Innovations that Make the Family Forest Carbon Program Different

'TRADITIONAL' FOREST CARBON PROJECTS	FAMILY FOREST CARBON PROGRAM
Pays landowners for carbon sequestered	Pays landowners to implement specific practices
Monitors carbon values on every property	Monitors practice implementation on every property; monitors carbon values on a landscape level using random sampling
High costs for monitoring on a per-property basis	Monitoring costs are high but spread across participating properties
Achieves permanence through long-term contracts	Achieves permanence through sound intervention design and landscape level accounting
Additionality determined from modeled baseline	Additionality determined from observed baseline, updated with every verification cycle. "Extreme additionality."

Carbon Accounting

- US Forest Service is constantly measuring forest carbon through its Forest Inventory and Analysis program plots



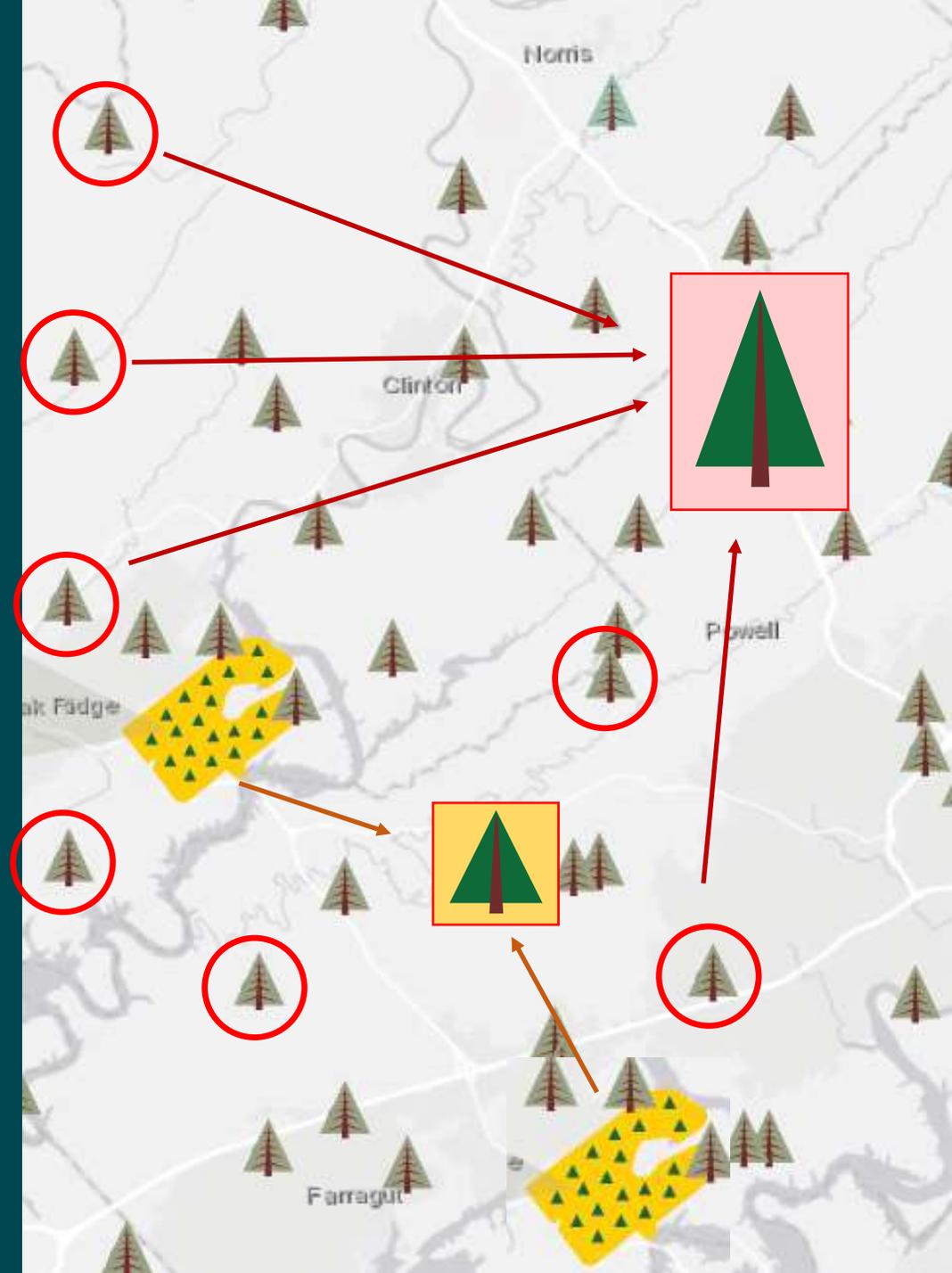
- Giving us accurate data about how much carbon is in our forests



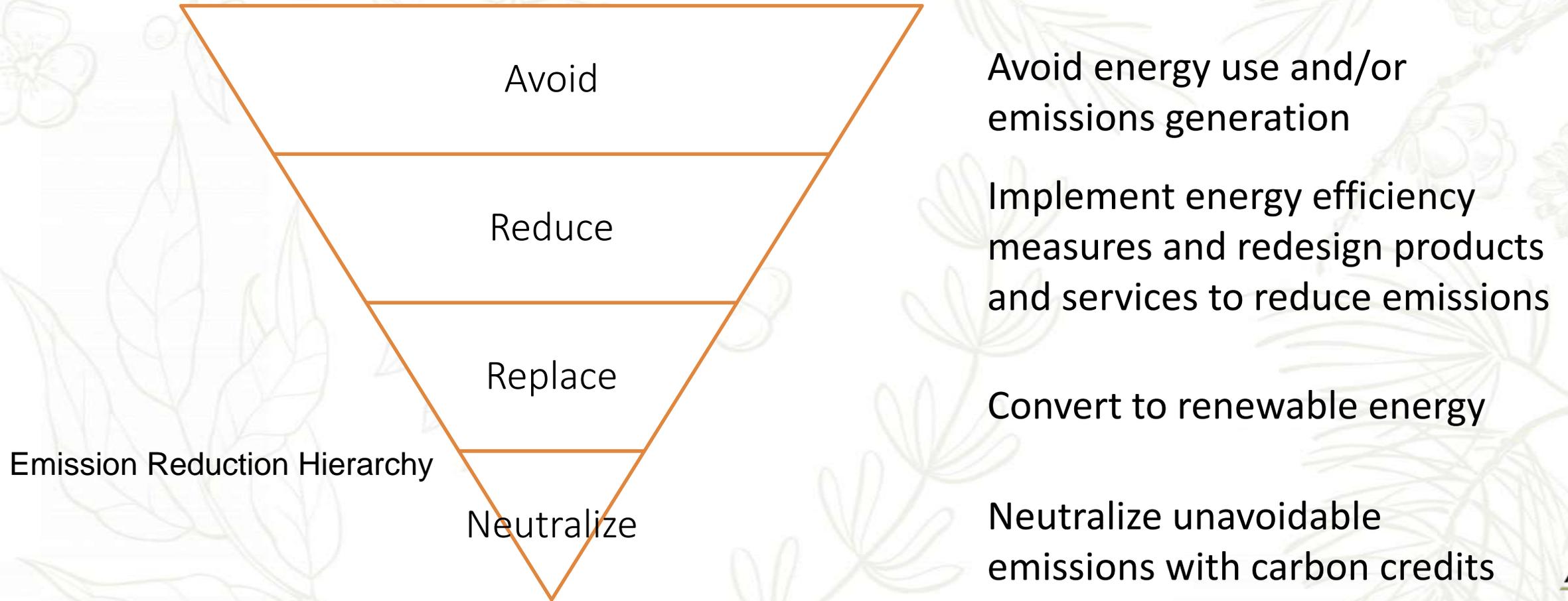
- Randomly selected plots on FFCP land are averaged to show how much more carbon (if any) is in FFCP-enrolled forests



- If  > , then AFF sells that carbon into the carbon markets (withholding a buffer of credits to account for leakage, reversals)



Purchasers Are Vetted



Contact Us

To discuss MA context or climate-smart forestry: Laura Marx, lm Marx@tnc.org

To discuss partnership opportunities:

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Read about the climate-smart forestry practices:

<https://nature.org/climatesmartforestsne>

Learn more about the Family Forest Carbon Program:

www.familyforestcarbon.org

