

Canceling Out Carbon Emissions

By Nick Fortuna

Family forest owners have always played a critical role in addressing climate change because the trees on their property gobble up and store carbon emissions, but they could use a helping hand. The Family Forest Carbon Program, a new partnership between the American Forest Foundation and The Nature Conservancy, aims to provide just that, incentivizing landowners to improve the health of their forests and increase carbon sequestration.

“It’s a win-win situation for anyone who has a piece of property and is planning on keeping it in the family,” said Tim Leiby, who owns 95 acres of forestland in Blain, Pennsylvania, and is among the first participants in the Family Forest Carbon Program. “A couple of guys at work have some family properties in the area as well, and I keep telling them about how great this program is.”

The FFCP was launched this past spring in Pennsylvania, where family forest owners account for about 51% of the state’s forestland. Plans call for the program to expand to other states in the central Appalachian region, including West Virginia, Maryland and Virginia, next year.

The program brings together family forest owners and companies to address climate change by opening up carbon markets to small forest holdings for the first time. The FFCP allows companies to buy carbon credits, make a meaningful contribution to the nation’s forests, and support rural communities, proving to their customers that they are committed to fighting climate change.

For landowners like Leiby, that means financial assistance to help them achieve their stewardship goals. Early last fall, Leiby was expecting to receive his first check from the FFCP and had earmarked the money to help remove invasive species from his property. Since larger trees like oaks and pines store much more carbon than smaller invasive species, promoting their growth over invasive species is vital in curbing global warming.

“We have some forest areas that are struggling, but once we’ve done a little work in there, you can see how [many saplings] come up,” Leiby said. “It’s amazing what the seed bank is like in the soil. All you have to do is give it a chance.”



Improving Forest Health

During the workweek, Leiby teaches inmates at the Camp Hill State Correctional Institution how to repair and maintain cars and other vehicles, empowering them to earn an honest living when they get out. On weekends, he travels about an hour from his home in Mechanicsburg, Pennsylvania, to stay at a cabin on his forestland, recharging his battery amid the picturesque settings.

“The cabin is only about 55 minutes from where I live, but it seems like you’re a million miles from everywhere when you get there,” he said. “It’s super quiet with beautiful scenery. There’s a big mountain on the far side of us that you can see from the property. It’s just a really relaxing place to go and hang out, whether it’s winter, spring, summer, or fall.”

The FFCP connected Leiby with a consulting forester who visited his property, took an inventory of its tree species, helped him develop a long-term land-management plan, and estimated the amount of carbon that could be sequestered by improving the health of his oak-dominated forest.

Clearly, healthy forests are just one component of a broad strategy to tackle climate change, along with ramping up clean-energy solutions and reducing pollution. But natural climate solutions such as forests are a key part of the equation. A recent analysis from The Nature Conservancy showed that only 1% of the money spent globally to address climate change is devoted to natural climate solutions such as forests. Yet those natural solutions have the potential to account for 37% of the mitigation efforts needed through 2030 to keep global temperature increases below two degrees Celsius.

When instituted across the country, the FFCP will be capable of offsetting roughly two gigatons of carbon emissions between 2030 and 2100. That's equivalent to the annual greenhouse-gas emissions from more than 419 million passenger vehicles, almost twice as many vehicles as are currently in use in the United States. The environmental benefit would be roughly equivalent to running 400,000 wind turbines – more than seven times the number of wind turbines in the U.S. – for one year.

Forests cover more than 760 million acres, roughly one-third of the country. These forests serve as the nation's largest terrestrial carbon sink, currently offsetting 11.3% of annual carbon emissions in the United States.

Since families and individuals own the largest share of forests in the country – about 36% – making carbon markets available to them must be part of any comprehensive climate plan. By way of comparison, federally owned forests account for 31% of the total, and forests owned by corporations add up to 19%.

“There's no silver bullet to address climate change, but it's little things that we do collectively that add up to great changes,” said Dana Dowling, a certified forester who runs Dowling Forestry LLC in Carlisle, Pennsylvania. “In years past, these carbon credits were really the domain of large, corporate landholders, so this is a really neat program because smaller landowners can now get involved in this, and that makes a huge difference.”

Strategies for Sequestration

The FFCP was launched in March with targeted ads on social media directing landowners to AFF's WoodsCamp tool. The free online resource is designed to help family forest owners connect with programs, services, and professionals to help them care for their land. WoodsCamp can put landowners in touch with consulting foresters who can help determine if they are eligible for the FFCP based on property size and land-management goals.

Eligible landowners will receive installment payments if they sign a contract pledging to implement sustainable forest-management practices that help to grow mature forests and/or enhance future forests. The goal of the FFCP pilot program is to recruit and sign contracts with approximately 100 landowners owning 9,000 acres in Pennsylvania.

Growing mature forests centers around promoting the growth of larger, higher-quality trees by putting a limit on harvesting over a 20-year contract period, in line with the landowner's management plan. Enhancing future forests focuses on the robust regeneration of new forests by removing competing vegetation following or preceding a regeneration harvest. This practice allows quality trees to have the space, sunlight, and water they need to thrive.

To calculate the amount of carbon being sequestered on each property, the FFCP is working with Verra, the nonprofit organization that oversees the Verified Carbon Standard, to develop an innovative methodology. This new methodology, which is awaiting accreditation later this year, streamlines the measurement process while improving accuracy.



That means that the two forest practices to be conducted by landowners have been modeled to scientifically calculate the amount of carbon sequestered. Measurements are based on forest stock changes resulting from implementing each practice. Traditionally, carbon sequestration has been measured by costly carbon inventories, the cost and time-intensiveness of which exclude the typical family landowner.

The FFCP's carbon measurements are then verified by a third party to ensure that issues like permanence, leakage, and additionality are addressed. This practice-based approach greatly reduces expenses for landowners, allowing more owners of small family forests to participate in carbon markets.

Dowling said the sustainable forest management practices promoted by the FFCP typically are in line with landowners' broader goals, such as generating income from timber harvests, providing wildlife habitat, keeping forests healthy and beautiful, and enabling the recreational use of land. By improving the health of forests, landowners can have a direct, positive impact on biodiversity and water quality.

One of the main practices the program is seeking to prevent is high-grading, or removing all of the most valuable timber in a single harvest while leaving less-valuable invasive species behind. High-grading forests in the central Appalachian region typically involves cutting down all the mature oak trees, eliminating the nutrient-dense acorn crops that help sustain many animal species, including some that are threatened or endangered. While it may be tempting to harvest the best timber now and cash in, Dowling said landowners who follow a sustainable path will be rewarded for their patience.

"The FFCP requires you to maintain a certain level of stocking in the stand, and those stocking levels fit so well with shelterwood harvests and other good forest-management practices, so it dovetails with that," Dowling said. "In the short term, you might not make as much money on a timber harvest as with high-grading, which I call 'forest mining.' But long term, studies show that if you do this correctly with stewardship of the forests, you will make more revenue over time and your property will be more valuable."

Action in the Keystone State

Back in Blain, Leiby was looking forward to receiving his first payment from the FFCP last fall and getting started on several projects. As an auto-repair instructor, his job involves vehicles that produce carbon and make much of modern life possible, but he's aware that the conveniences we all enjoy come at a cost, and he's determined to make a difference.

In the years ahead, he'll be removing invasive species such as the Japanese barberry bush, tree-of-heaven, maple trees, and Japanese stiltgrass to allow his mature and developing oak trees to dominate the landscape. He said the free, detailed information provided by the FFCP, including the inventory of tree species on his property, combined with the incentive payments, make the FFCP an invaluable program for landowners.

“It’s awesome to have this kind of a resource to help us out,” Leiby said. “With the money that we receive, we can get some professionals in there to help us do these things.

“I definitely think that we as humans have sped climate change up, and to think that we can slow it down or turn it around is awesome,” he added. “The program seems too good to be true, but then you learn more and look at the numbers, and it’s just an amazing benefit.”

Nick Fortuna is a freelance writer.

*Please direct all questions to the American Forest Foundation,
<http://www.forestfoundation.org/carbon>.*

*Excerpted with permission from the Fall 2020 edition of Woodland Magazine
<https://www.nxtbook.com/naylor/AFOQ/AFOQ0320/index.php#/p/20>.*

Photos used with permission of the American Forest Foundation.