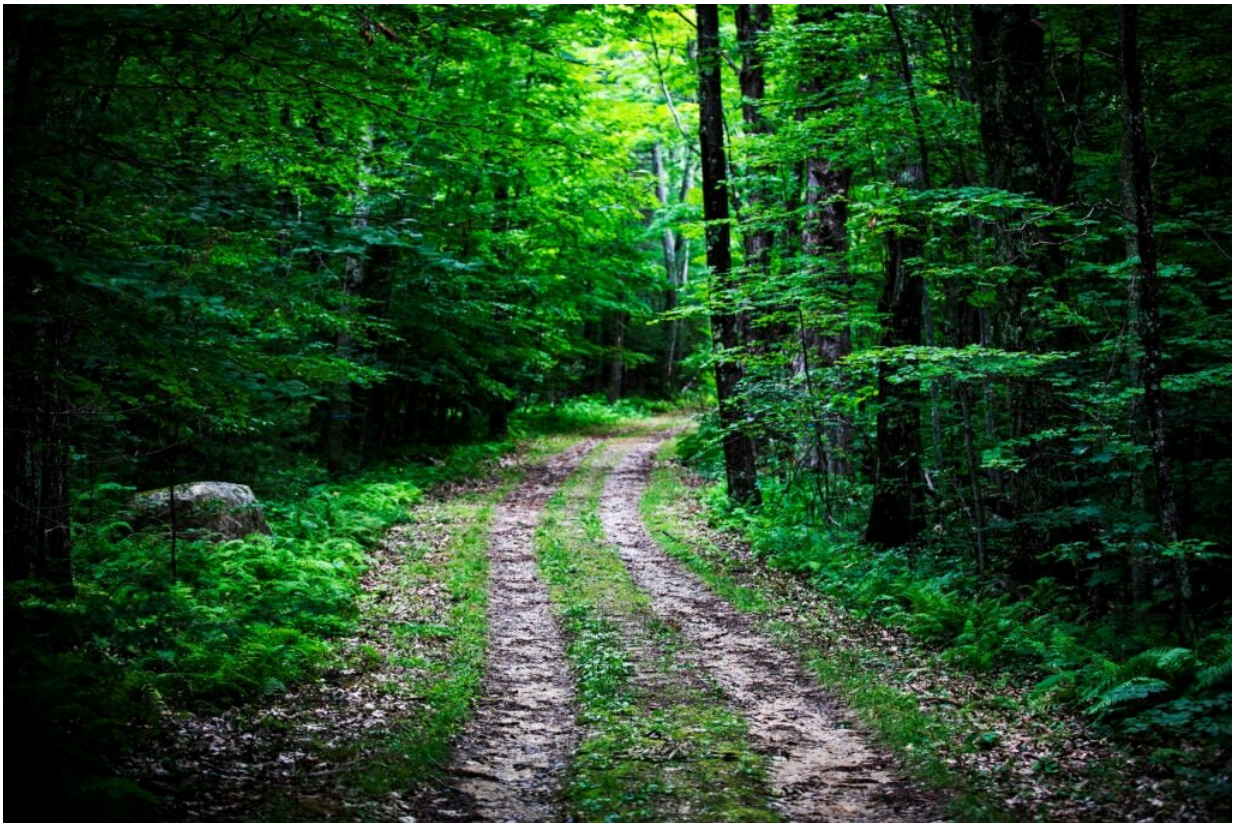


New report shows forests have big role to play in climate change fight

November 15 2022, by Juan Siliezar



Harvard Forest (pictured) was included in a study that looks at how New England forests can be better utilized in the fight against climate change. Credit: Stephanie Mitchell/Harvard Staff Photographer

A major new report suggests that with a handful of strategies New

England's 32 million acres of forests, which cover about three-quarters of the region, could eventually come close to absorbing 100% of all the carbon produced by the six states.

The [report](#), "New England's Climate Imperative," commissioned by the conservation nonprofit the Highstead Foundation and led by a Harvard ecologist, looks at how forests in the region can be better utilized in the fight against [climate change](#).

"Most people have learned that [forest](#) or trees in one way or another can be a help to climate, but beyond that there isn't a lot of clarity about how significant a role they could play or what their role is," said Jonathan Thompson, a senior ecologist at Harvard Forest who helped lead the research team.

"It's why we felt that there was a need, despite all the many climate reports that come out, for a specific estimate on this role forests could play, especially if you take different activities that are defined by state governments themselves and NGOs."

According to the report, the region's forested areas already annually absorb almost 27 million tons of carbon through photosynthesis, the process by which plants synthesize food and release oxygen as a byproduct. The report lays out five steps policymakers and conservation NGOs can pursue that can lead to forests absorbing almost 360 million additional tons of carbon dioxide over 30 years.

That means New England's forests will be able to absorb virtually all the carbon produced in the region, provided the six states hit their existing emission-reduction goals.

Thompson and collaborators from nine institutions—including the New England Forestry Foundation and the Northeast Wilderness

Trust—created their recommendations after interviewing dozens of local lawmakers and conservationists on steps they hope to take or have already started taking to use trees and forests in the region to reduce carbon.

The five strategies include changing development practices to reduce annual rates of forest destruction; designating at least 10 percent of existing forests as forever wild, allowing more trees to grow old and accumulate and store more carbon; improving [forest management](#); replacing concrete and steel with mass timber materials in half of all new institutional buildings and multifamily homes; and taking actions on urban and suburban forests to increase tree canopy and [forest cover](#) in cities and suburbs.

The researchers ran the metrics on how each would contribute to reducing carbon dioxide in the atmosphere at different tiers of implementation. In the report, they break it down by state and then calculate them together.

"Each of these pathways offers a way to pull more carbon out of the atmosphere," Thompson said. "We think of these pathways very much as all-of-the-above-type solutions. There are a lot of forests in New England, and there is a role for multiple different strategies to meet climate goals."

For example, if even moderately implemented, the strategies would boost the amount of carbon New England forests absorb each year from the equivalent of 14% of 2020-level fossil fuel emissions to 20%. That increase would eventually jump to 97% by 2050 if all individual emission reduction scenarios are met by the states.

The researchers admit that some of their recommendations may seem contradictory, such as promoting policies that avoid deforestation and

creating more wildland while also promoting an increase in construction using timber. But studies and metrics have shown that the numbers make it worthwhile.

Timber building materials, for instance, are much less carbon-intensive than steel or concrete. They also store carbon through the life of the building. The researchers calculate that if half of six- to 12-story buildings used wooden frames, an additional 15 million U.S. tons of carbon could be stored.

The report, which took two years to compile, seeks to inform legislators and policymakers throughout New England as they pursue state-level climate goals.

With Earth perilously close to eclipsing the 1.5-degree Celsius increase in average annual temperatures that [climate scientists](#) say will cause irreparable harm to society and nature, the researchers note that while technological approaches exist to reduce carbon in the atmosphere, none of them rival forests. They hope lawmakers will take heed and take action.

"In New England, nature is a major ally in our effort to address the global crises of [climate](#), biodiversity, and [human health](#)," said David Foster, a co-author of the report, Highstead Foundation board member, and director emeritus of Harvard Forest.

"If we can conserve forest infrastructure and embrace the pathways outlined in our report, we can increase forest [carbon](#) sequestration and help all six states achieve their emissions targets."

More information: New England's Climate Imperative: Our Forests as a Natural Climate Solution: A Highstead Report: [highstead.net/library/forests- ... al-climate-solution/](https://highstead.net/library/forests-...al-climate-solution/)

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