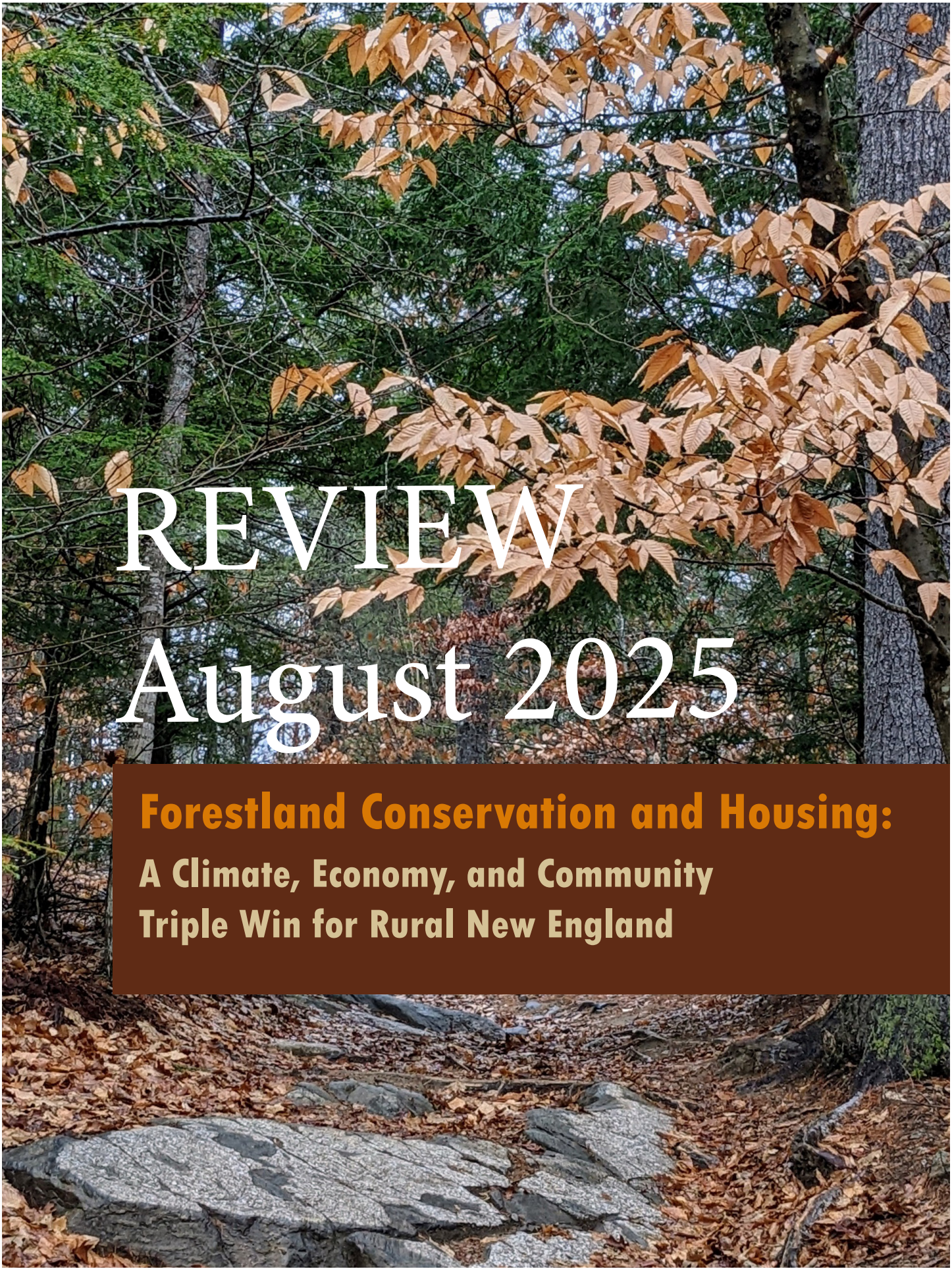


REVIEW
August 2025

Forestland Conservation and Housing:

A Climate, Economy, and Community Triple Win for Rural New England

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NEW ENGLAND FORESTRY FOUNDATION

ZERO ENERGY HOMES

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Foundational Documents:
An Affordable Eco-Dwelling Roadmap: A Guide for Land Trusts and Housing Organizations to Collaborate on Inclusive, Holistic, and Sustainable Affordable Housing Developments (Kingston Land Trust and Bard College MBA in Sustainability Program, Version 5.28.21)

Beyond the Illusion of Preservation: Taking Regional Responsibility by Protecting Forests, Reducing Consumption, and Expanding Ecological Forestry in New England (Littlefield, Donahue, Catanzaro, Foster, D'Amato, Laustsen, and Hall, March 2024)

Breaking Ground: An Affordable Housing Resource Guide for Land Trusts (Sindoni and Custer, Yale School of the Environment and King-Cortes, Land Trust Alliance, 2023)

Conservation Land Trust and Community Land Trust Partnerships: Workforce Housing with Community, Conservation, and Ecological Benefits (Alexa Livingston, Kennebec Land Trust, 2024)

Cover Photo: Jennifer Dann



Photo: Brian Donahue

Summary

Recent years have shown rapid population growth trends in rural New England, with increasing development projected due to factors such as in-migration from urban areas and climate migration. Rural communities are under enormous pressure to identify appropriate land for development and housing designs that reflect each community's needs and values. One of the many unintended consequences of a rapid growth pattern is that New England's forested landscape could be at increased risk due to unplanned development that leads to sprawl.

For the many New England communities that rely on the forest products economy, housing growth represents both an opportunity and a threat. As a major consumer of lumber and other durable wood products, housing construction is a driver of the forest economy, but forestland conversion to development is a permanent loss of the many ecological and socioeconomic values associated with forestland, including productive woodland. Paradoxically, the workforce needed to support the forest products economy and housing construction is shrinking, exacerbated by the lack of housing options. These workforce shortages make it difficult for rural communities to sustain their economies.

Conservation land trusts and other conservation organizations are appropriately concerned about these dynamics. State climate action plans rely on the region's forests as "natural climate solutions" that can sequester and store carbon both on the ground and in long-lasting wood products such as lumber, while also serving other environmental goals such as biodiversity and water protection, and ensuring public access to recreation, scenery, and wildlife.

Historically, the conservation community has focused on permanently protecting land from development. Conservation organizations continue to prioritize conserving land to benefit current and future generations, but there is growing recognition that they may achieve greater long-term ecological, economic, and climate benefits by pairing land conservation with other strategies that take into consideration the broader societal needs of the communities they serve.

Conservation organization participation in regional land use planning to identify forests that should be wildlands, those that can be well managed working woodlands, and land that may be best suited for responsibly sited housing development can lead to the effective implementation of two broad strategies in New England:

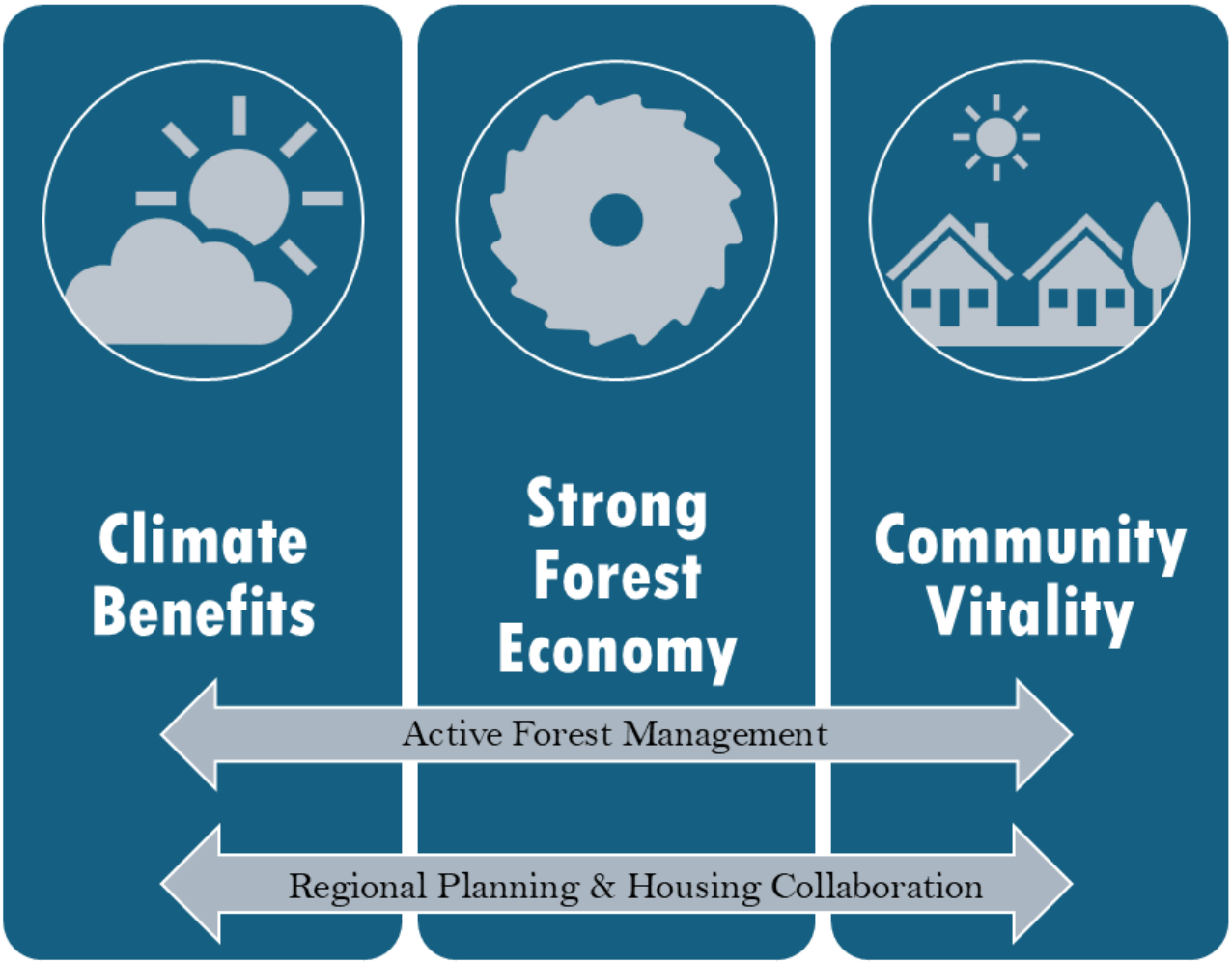
Promote and practice active management of conserved forestlands to support both ecological and climate goals, and contribute to the production of forest products (as well as managing land for agriculture and working waterfronts).

Collaborate with housing organizations to develop housing that is permanently affordable and supports healthy rural communities, and that includes the use of local and regional wood products.

There are significant challenges within these strategies. Recognizing that forestland conservation can take the form of active management of forests, the support of regional forest-based economies, and meeting community needs – including housing - is a strong start.

Strategic partnerships across conservation and housing sectors have the potential to foster durable outcomes that achieve meaningful climate, economy, and community benefits:

a triple win for rural New England.



PROFILE

Hudson Valley Alliance for Housing and Conservation



Recognizing that the Hudson River Valley region is becoming an increasingly unsustainable and inequitable place to live, the region's leading land trusts and affordable housing organizations are partnering under the vision that healthy communities need both abundant, affordable housing and protected land that supports clean water, food production, climate resilience, and outdoor access. While affordable housing and land conservation organizations have made progress addressing these issues within their own sectors, the current siloed approach is not accomplishing enough. They are banding together to take a holistic approach to these complex and urgent problems, and have a larger-scale impact.

Terms

This paper's use of the common words "affordable", "rural", "local", and "regional" has complexity because these words are part of terms defined by the Federal government in the housing and/or wood products arenas.

Term	Federal Definition	How This Paper Discusses These Terms
Affordable/ Workforce Housing	Affordable housing units are financially accessible to low- and moderate-income households, typically costing no more than 30% of a household's gross income. Workforce housing is defined as housing that is affordable for those earning between 80% and 120% of the area median income. United States Department of Housing and Urban Development	Housing options for residents with a wide range of earned incomes who may work in local industries like agriculture or forestry, ensuring they can live in the communities where they work. The degree of housing affordability that is needed is dependent on the community itself, informed by local economies and workforce needs. **Low and moderate-income** is relative to the area's median income.
Rural Areas	Any area that is not an urban area, defined as densely settled territories that have at least 2,500 people but fewer than 50,000 people. United States Census Bureau	Areas characterized by low population density, the prevalence of open spaces, and a landscape that is closely tied to natural resources like agriculture, forestry, and natural landscapes. These areas often lack the density and infrastructure of urban or suburban regions, and communities are generally small and dispersed. In New England, rural areas are defined not only by their geographic remoteness but also at times by their strong community identity, local economies based on natural resource industries, and a slower pace of growth and development.
Local/ Regional Wood Products	Local wood products are sourced from the same state or adjacent state. Regional wood products are sourced from within New England, New York, or Eastern Canada. United States Department of Agriculture	Sourcing wood at the smallest geographic scale as economically and logistically possible to encourage forestland conservation, support rural economies, and minimize climate impacts.

Other Terms Used

Climate Smart Forestry

Climate smart forestry is an approach to forest management that emphasizes climate resilience and contribution to climate mitigation, potentially combined with goals for sustainable production of forest products and improving wildlife habitat or other values.

Conservation Organization

A conservation organization is typically a nonprofit entity focused on the protection, conservation, and preservation of natural resources, wildlife, and habitats. These organizations often engage in activities such as land acquisition, habitat restoration, and advocacy for environmental policies.

Development

Development refers to the process of altering the landscape for various purposes such as agriculture, housing, commercial activities, or infrastructure projects. This can include changing landforms from their natural or semi-natural state, subdividing real estate into lots, and constructing buildings or other structures.

Housing Typology

Housing typology is the categorization of residential buildings based on their form, function, and architectural style.

Responsibly Sited Housing Development

Responsibly sited housing development follows the basic principles of **smart growth**, an overall approach of development and conservation strategies that can help protect our health and natural environment and make our communities more attractive, economically stronger, socially diverse, and resilient to climate change.

There are 10 basic principles to guide **smart growth** strategies:

- Mix land uses
- Take advantage of compact design
- Create a range of housing opportunities and choices
- Create walkable neighborhoods
- Foster distinctive, attractive communities with a strong sense of place
- Preserve open space, farmland, natural beauty, and critical environmental areas
- Direct development towards existing communities
- Provide a variety of transportation choices
- Make development decisions predictable, fair, and cost-effective
- Encourage community and stakeholder collaboration in development decisions

Wildlands

Wildlands are "tracts of any size and current condition, permanently protected from development, in which management is explicitly intended to allow natural processes to prevail with "free will" and minimal human interference." (Harvard 2010) Timber harvesting, field enhancement, and/or farming, are not land management goals.

Working Woodlands

Working woodlands are those that are managed to balance the sustainable production of timber with other values and societal benefits such as recreation and wildlife habitat. Ideally, they are permanently protected from development (although today most are not). Generally, these are more actively managed in comparison to wildlands. Management can vary substantially depending upon landowner objectives and economic conditions.

Background

New England Housing

New England is facing a persistent and growing housing shortage that threatens the economic stability and livability of communities across the region. The crisis stems from both demand-side pressures—such as in-migration, changing demographics, and workforce needs—and supply-side constraints, including regulatory barriers, high construction costs, and limited housing diversity. As a result, both urban and rural areas are struggling to provide adequate and affordable housing options for residents, workers, and new arrivals.

This imbalance has wide-reaching consequences. In high-demand urban centers, soaring rents and home prices are displacing long-term residents and exacerbating workforce shortages in key industries. In rural communities, a lack of housing hinders economic growth, making it difficult to attract and retain workers. Additionally, the prevalence of seasonal homes and short-term rentals reduces the availability of housing for year-round residents, while aging populations and changing household needs further complicate the housing landscape.

The demand for housing has surged due to in-migration, particularly from higher-income households relocating from urban areas in search of improved quality of life, lower living costs, and greater access to natural amenities. This trend, accelerated by the rise of remote work and climate migration, has intensified competition for housing, driving up prices and outpacing the supply of affordable homes-especially in rural and small-town markets (Joint Center for Housing Studies of Harvard University [JCHS], 2023). At the same time, an increasing number of asylum seekers and immigrant populations require short-term, low-income housing, placing added pressure on already limited affordable housing stock and municipal resources (MaineHousing, 2023).

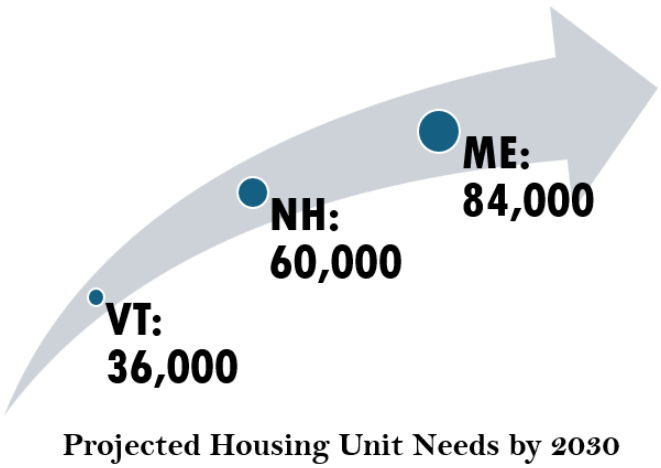


Figure 1. Projected housing needs from state housing authorities.

Compounding these challenges, New England's aging population is reshaping housing demand. In many lower-density communities, older adults who seek more accessible or manageable housing options within their neighborhoods often find few alternatives to traditional single-family homes (JCHS, 2023). **This mismatch between housing needs and available options** contributes to constrained housing turnover, limiting opportunities for younger families and workers, and **is particularly problematic in key industries such as forestry,** healthcare, and education, where



Photo: Jennifer Dann

employee shortages are exacerbated by the lack of housing options (MaineHousing, 2023). Addressing these trends requires targeted policies to expand housing supply, encourage diverse housing types, and invest in affordability measures that support both long-term residents and new arrivals.

On the supply side, housing production has not kept pace with demand, particularly in rural counties. The region remains dominated by single-family housing, limiting opportunities for diverse and affordable housing options. Construction has lagged behind job growth over the past decade due to regulatory barriers, high costs, and limited developer interest in small-scale rural projects (Hurtado et al., 2025).

The 2008 financial crisis had a lasting impact on the housing market, particularly in rural areas, where recovery has been slow. The collapse of the housing market led to a significant decline in home construction, as many developers and lenders became risk-averse and refrained from investing in new projects, particularly in low-demand, low-density areas (Belsky, 2014). This downturn resulted in a severe underproduction of housing, which has persisted for more than a decade. While urban markets gradually rebounded, many rural communities never saw a full recovery in housing production. Developers have continued to prioritize high-demand metropolitan areas, leaving small towns and rural counties with an aging housing stock and little new construction (National Low Income Housing Coalition, 2024). As a result, today's rural housing shortage is rooted in the post-2008 construction decline, exacerbated by increasing labor and material costs, restrictive zoning laws, and an overall lack of financial incentives for builders to invest in small-scale, rural projects.

Many communities also struggle with a high percentage of vacant, dilapidated, or underutilized housing stock, much of which requires costly renovation to be habitable. Additionally, the prevalence of seasonal homes and short-term rentals in popular vacation areas has reduced the availability of housing for year-round residents (Island

Institute, n.d.). While some municipalities are prioritizing the rehabilitation of existing housing stock, renovation efforts face financial and logistical challenges, including outdated infrastructure, lead paint remediation, and energy efficiency upgrades (New Hampshire Housing Finance Authority, 2023). In some cases, local governments seek to acquire tax-delinquent or abandoned properties for redevelopment. However, the Tyler v. Hennepin County (2023) decision, which ruled that governments cannot retain surplus proceeds from tax foreclosure sales beyond what is owed, may affect how municipalities manage and repurpose these properties.

The housing crisis manifests differently across urban and rural communities, requiring tailored solutions. Rural areas are fundamentally different than urban areas because of their geographic orientation, often farther from services and supply chains, with lower populations resulting in higher per capita costs. While urban areas struggle with affordability due to high demand, **rural areas struggle with availability, often lacking sufficient new housing to meet local needs**. Urban centers experience high demand and rising rents driven by population growth, economic opportunities, and a limited housing supply (New Hampshire Housing Finance Authority, 2023; New York Post, 2024). In contrast, rural areas face housing shortages due to limited development, aging housing stock, a high proportion of seasonal properties, and economic constraints, despite a growing need for housing.

New England Forests



Photo: Jennifer Dann

New England's forests are facing challenges on multiple fronts that threaten their ability to realize their promise as a climate solution and to provide their many other benefits, including biodiversity, water protection, and forest products. These include threats to the forests themselves, such as conversion and fragmentation, climate change, and pest impacts – and challenges to and from the forest economy, including forest ownership change, workforce shortages and exploitative forest management practices.

New England's landscape has almost 32 million acres of forestland. Roughly 80% of the landscape is wooded, ranging from a little less than 60% in the southern states to almost 90% in Maine. New England has steadily reforested since the 19th century, following a history of intense forest clearing in southern and central New England following European arrival. **New England's forests are now undergoing another cycle of deforestation in the face of development, and increasing forest fragmentation that has severe impacts on biological diversity.**

The USDA Forest Service's Forest Inventory & Analysis Geospatial Showcase reports an annual net loss of over 29,000 acres of forestland in New England, with 75% of the loss due to development (Figure 2).

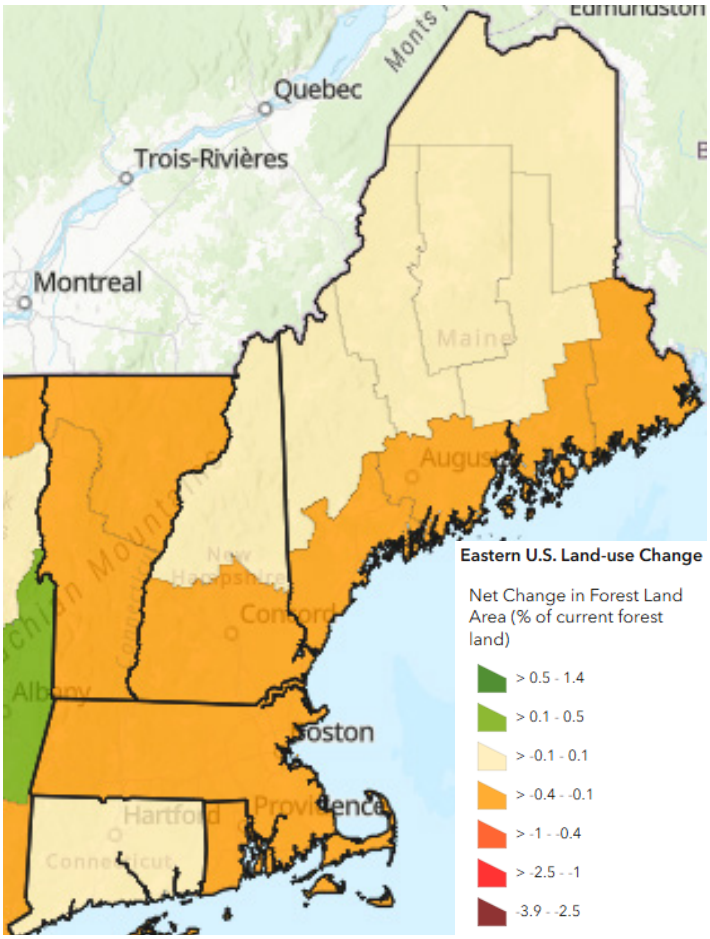


Figure 2. Annualized estimate of land-use change produced through comparisons of the latest available inventory cycle and the previous cycle (USDA 2024).

Of New England's total forest, there are 30.5 million acres of timberland – those forests capable of producing forest products and not prevented from harvesting by legislative statute - across the six states. Private owners, including individuals, families, corporations, and conservation organizations, own 87% of timberlands. This private ownership is split roughly in half between individual/family ownership and corporate ownership (Figure 2).

Family forestland ownership has been a familiar and dominant pattern in southern New England and Vermont, and in southern New Hampshire and Maine for many decades (Figure 2). However, only about 15% of family forests have formal forest management plans, and very few participate in government forestry incentive programs (Littlefield et. al., 2024). The average age of landowners is nearly 65 years old (Littlefield et. al., 2024), and the aging of this ownership class and their pending transition to the next generation is a concern, with fears of further fragmentation, heavy forest cutting to offset medical/estate expenses, and conversion to non-forested land uses through various types of development.

Corporate forestland, mostly located in northern Maine, New Hampshire, and Vermont, has seen a major ownership transition from vertically integrated operations (where one company controls and owns many portions of the forest products supply chain) to corporate investors such as real estate investment trusts, timber investment management organizations, and wealthy individuals. While some large family investment ownerships continue to bring a multi-generational perspective to forest management, other investment owners can be more focused on shorter-term economic gain instead of long-term forest management focused on improving the growth of individual trees and the quality of forest products. This shorter-term economic approach can lead to conversion and development, but also includes the sale of conservation easements, mitigation bank credits, and carbon offsets, with most of the benefits and profits not realized locally (Littlefield et. al., 2024).

Climate change is having impacts on New England's forest management, with lengthened growing seasons, milder winters, warmer summers, periods of intense precipitation and drought, and more wind and ice. These changes have exacerbated the impacts of pests and diseases, and have expanded their ranges. Some tree species in New England may increase because of these changes, while those adapted to cold climates such as balsam fir, northern white cedar, and black spruce will likely be negatively impacted. Decreased periods of frozen ground have limited the time and productivity of harvesting in forests, constraining timber supply (Maine DECD, 2023).

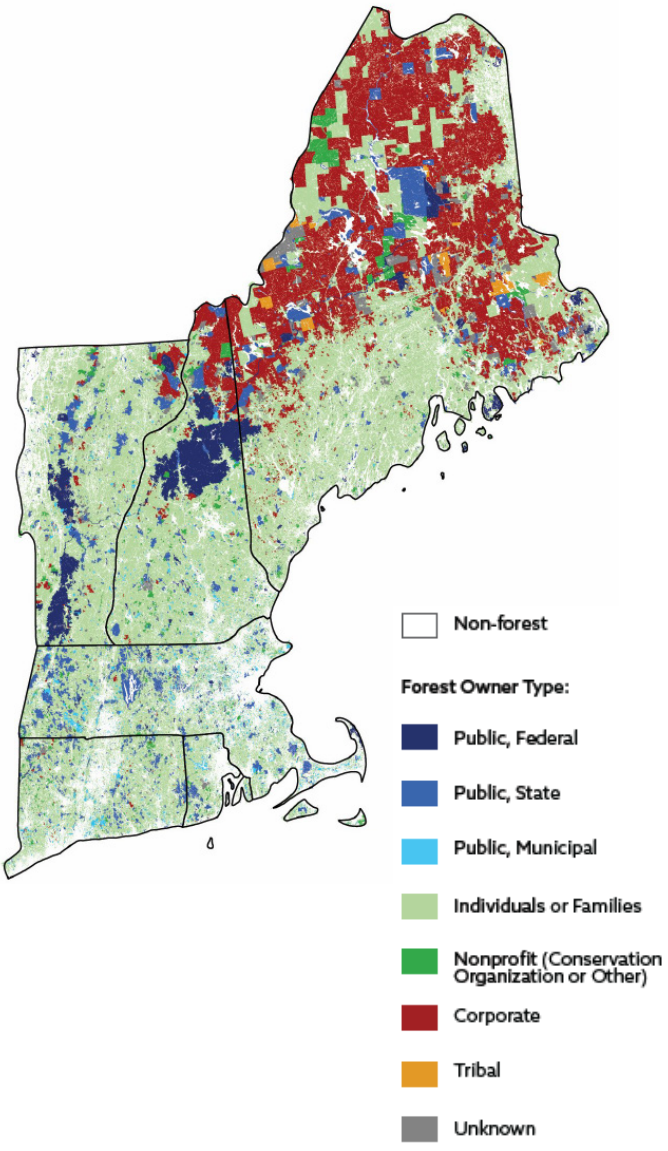


Figure 3. Forest ownership across New England (Littlefield et al, 2024)

The Intersection of Housing and Forestland Conservation

New England's tourism, recreational and forest products economies, as well as the region's wildlife, water quality, and sense of beauty and place, are directly connected to the long-term conservation and stewardship of its forests. But **forestlands are more vulnerable than ever to conversion and further fragmentation**. Economic pressures on private forestland owners, both family and corporate, can lead to the sale of land for short-term economic gain and permanent conversion of forestland, resulting in a ripple effect of negative ecological and socioeconomic impacts.

Forestlands are popular as residential building sites, offering benefits such as privacy, shade, wind and noise buffering. In a void of planned housing and growth, the easiest sales are often single-family homes on large lots. As home prices and rental costs continue to rise, long-term residents, young families, and local and regional work forces may struggle to remain in their communities (JCHS, 2023). Workforce shortages in key industries including forestry are exacerbated by housing inaccessibility, making it difficult for rural towns to sustain their economies and critical social institutions such as schools and medical services. Without intervention, these trends could lead to further displacement and loss of community character.

Many communities understand the importance of balancing housing expansion with conservation in a region that is valued for its forests, farmland, and open spaces. Addressing New England's housing challenges requires a collaborative approach that considers the need for a diversity of housing options, improves infrastructure, incentivizes rural development, and integrates local and regional conservation goals.

There is an opportunity to further expand collaborative regional land use planning and community housing conversations to allow rural communities to address forestland conservation and housing expansion in a holistic and mutually reinforcing manner.

Together, conservation organizations, regional planners, state housing agencies, and municipal leadership can leverage their expertise to champion decisions that incorporate wildlands, working woodlands, and responsibly sited development. This integrated approach to land planning ensures that housing solutions align with broader sustainability and land conservation efforts, fostering resilient rural communities for the future. Smart Growth principles, such as clustered development and conservation-oriented planning, can guide this collaborative work needed to protect New England's landscapes and economic sustainability.

PROFILE

Kennebec Valley Council of Governments (Maine)



The Kennebec Valley Council of Governments (KVCOG) is a standout example of regional planning in Maine, helping small towns balance housing, economic development, and land conservation. KVCOG has supported communities in revising local ordinances to allow for village-style development and accessory dwelling units, while also protecting forestlands through conservation easements and thoughtful land-use planning. By applying Smart Growth principles, KVCOG helps reduce forest fragmentation and preserve working lands. Their work shows how regional planners can bring together municipalities, conservation groups, and state agencies to make informed, coordinated decisions that support both housing affordability and forest conservation.

Top Photo:
Timber HP Plant in Madison, ME (KVCOG)

Bottom Photo:
Madison ME Rural Affordable Housing Development (55 Weston Ave)

Conservation organizations have skills, experience, and networks to advance opportunities in this collaborative area of work. Professional conservation staff are skilled at evaluating land for its multiple values and developing land management strategies to optimize those values. Conservation organizations can help organize broad coalitions around issues through their membership and through their advocacy, have established, trusting relationships with policymakers, industry professionals and researchers in the land management and policy space, and can be a combined voice to influence both land management policy and practice. And, with their experience in permanent land conservation, they can envision housing developed with the intention of it being permanently affordable.



Identifying Needs

Conservation organizations can start by understanding what the needs are within the communities/regions they serve. Municipal comprehensive plans can be an excellent first resource: they guide development decisions by outlining long-term visions for housing, land use, and economic growth, and reflect input from residents and stakeholders. These plans incorporate zoning regulations, conservation priorities, and housing affordability goals, ensuring that future development aligns with community needs and environmental sustainability (Maine Department of Agriculture, Conservation & Forestry, 2005).

Conservation organizations have long seen their land and work reflected in the needs of comprehensive planning in a variety of ways, such as:

Water Resources
- Aquifer/drinking water protection
- Undeveloped shoreland

Cultural Significance
- Physical Features
- Visual qualities
- Prehistoric/historic significance

Land Connectivity
- Watersheds
- Unfragmented habitat

Climate Resilience
- Unfragmented habitat
- Unique or fragile ecosystems

Outdoor Space
- Education
- Recreation
- Tourism

Two additional areas that comprehensive plans may identify as a need for conservation organizations to consider are:



Land-based economic opportunities including timber production (as well as agriculture and working waterfronts).

Conservation organizations may own land adjacent or near to working woodlands or those well-suited to be working woodlands, and can proactively approach these landowners. Family forest owners may be receptive to commitments that their land will be kept as working woodlands geared toward production of longer-lived carbon-storing wood products.



Land needs for **workforce or affordable housing development**

One of the biggest inhibitors to being able to develop community housing is access to land (Kingston Land Trust, 2021). Conservation land trusts are often offered first access to properties being sold near or adjacent to conservation land. If these lands are suitable for housing development (proximity to community services, access to transportation and utilities, and other Smart Growth principles), conservation organizations can work with community partners to develop a plan that allows for development of clustered housing on part of the land while leaving open space. This has the added benefit of extending the benefits of living close to conserved lands to low- and moderate-income housing residents, who may not otherwise be able to easily access or benefit from these spaces.

If comprehensive plans reflect these goals, conservation organizations can initiate conversations with regional planners in collaboration with municipalities. Regional planning agencies provide technical assistance, data analysis, and policy recommendations that guide municipalities in land use decisions. These organizations help coordinate cross-jurisdictional planning efforts, ensuring that rural communities consider housing needs, infrastructure development, and conservation priorities collectively rather than in isolation. Regional planning agencies may employ community planners that work across multiple communities. These community planners are often overworked and must contend with different policies and zoning regulations in each community.

Productive partnerships with regional planners, especially those related to housing development, will take time. **It is important to recognize that in the past, planning organizations and landowners may have felt threatened by permanent land conservation, just as many conservation organizations have been opposed to housing development and timber harvesting. Misunderstandings about the definitions of commonly used words – reserves, preserves, conservation – have thwarted many opportunities to advance landscape level conservation.** The experience conservation organizations may have in building trust-based coalitions and collaborations can be valuable in getting past these misunderstandings.

Committing to an Evolved Mission

Conservation organizations may also need to build trust within their own membership for building new and novel relationships outside of their conventional networks and assumed areas of interest. If strategies are identified to support housing and/or working landscapes, there will likely be the need to elevate the value of this work with the full board of directors, donors, and/or members, who may not see this effort as within the scope of a conservation organization's mission. Trust building and collaborative learning will be needed, based around the real threat to forestland conservation - haphazard conversion of woodlands to commercial and residential development, and the resulting community and environmental impacts that accompany these permanent land use changes. **Within this framework, conservation organization work in housing and working landscapes becomes a mission evolution, instead of a mission creep.**

> **"Housing development does not have to inherently be a threat to land conservation if land trusts offer their perspective, strengths and tools to encourage the built environment to support the natural environment, and vice versa. If land trusts are not part of the conversation and at the table on housing development planning, conservation values will continue to be at risk." (Kingston Land Trust, 2021)**

The existing land evaluation tools that conservation organizations use can be adapted and expanded to identify forests that should be permanently conserved, those that can be effectively managed woodlands, and land that may be best suited for appropriately sited development. This can shift development away from land with high ecological value, while still providing land for needed housing.

Conservation organizations may already own or otherwise conserve properties that are well suited for housing or working lands. While it may be possible to revisit and modify the management goals of some of these properties, in many cases prior commitments may preclude development of previously conserved lands, and conservation organizations would risk violating legal agreements or eroding the trust of their donors and the community by not operating according to the original vision under which the land was acquired.


Photo: Sharon Fitzgerald

The following sections of this paper will focus on **how conservation organizations can actively engage in meaningful work in active woodlands management and collaboration on housing development to achieve a climate, economy, and community Triple Win**.*

*While the role of conservation organizations in the permanent conservation of wildlands continues to be essential, it is not a focus of this paper.

Conservation and Active Forest Management

New England conservation organizations have long been champions of forestland protection. Within the conservation community, some conservation organizations maintain strong preferences for preservation-based approaches regardless of geography, while most acknowledge there are roles for both wildlands and actively managed woodlands.

Forests that are preserved as wildlands can have great aesthetic and spiritual values, center ecological needs, and can serve as benchmarks that allow scientists to better understand forest ecosystems (Hunter,n.d.). However, passive forest management policies and practices designed to protect forests can have the unintended consequence of shifting deforestation to other regions to meet wood consumption demands, creating what is known as the "illusion of preservation" (Berlik et al., 2002). For New England to supply the wood it consumes, about 60% of the forest acreage in New England would need to be actively managed in concert with a reduction in wood product consumption (Littlefield, et. al 2024).

"[New England uses wood and has] forests that are capable of sustainably producing most of what we need but currently do not. Instead, we import a full quarter of the wood we consume - and nearly half the lumber - including from places where environmental and social protections are less assured" (Littlefield, et.al. 2024).

There can be complementary gains from active forest management. Forests can be actively


Photo: Jennifer Danny

managed for climate adaptation (resistance, resilience, and transition) and contribution to climate mitigation, a management approach called climate smart forestry. Climate smart forestry can be combined with goals for ecological and other core values, including the production of durable forest products such as lumber that store carbon for the long term.

Harvesting wood from actively managed forests can also help support a chain of local providers – foresters, loggers, truckers, sawmill operators, wood processors – that

bolsters local economies and supports communities in non-traditional ways that still align with conservation organization's core values.

"Encouraging a local wood movement, where a logger harvests logs from a landowner's woodlot, that are processed by a local sawmill into products that are incorporated into the new town hall, its neighboring house, or its kitchen cabinetry or flooring, is one way we can support vibrant communities (Burnett, 2018)."

This comprehensive approach to forestland stewardship and management is crucial to achieving the climate, economy, and community benefits of New England's Triple Win.

PROFILE
Climate Smart Wood Group

CLIMATE SMART WOOD GROUP

The Climate Smart Wood Group is a collaboration between environmental, scientific, green building, and forestry leaders that are addressing climate issues around forest management, forest product supply chains, and the use of climate-smart wood in construction projects. Their website, climatesmartwood.net, has multiple resources, including a working definition for climate-smart forestry.



Photo: Jennifer Dann

Active Management Practices

Many of New England's forests have been degraded by past forest practices, or have been severely impacted by pests, disease, or climate change itself, impacting their overall health. These forests may need improvements in species diversity, age and height structure, wildlife habitat, and ecosystem functioning to maximize their potential for carbon sequestration and storage and other ecological benefits. Active management practices might include:

- Encouraging diverse species composition and stand class distributions through forest stand improvement thinning.
- Restoring tree stocking to fully occupy sites, including the use of fill-planting to introduce species better adapted to future climates.
- Encouraging species and stand compositions that are best adapted to future climate conditions and disturbance regimes.
- Creating wildlife habitat for rare, threatened, and endangered and umbrella species (for example, some native flora and fauna respond well to more open forest canopies).

Active forest management practices use silvicultural methods that consider species composition, tree spacing, tree health and form, seed sources, soil conditions, topology, and other factors to support the health, structure, and productivity of trees, current and future. Permanently conserved wildlands, where there are no human activities, can be interspersed with actively managed forests.


Photo: Jennifer Dann

Active forest management practices that incorporate timber harvesting include:

- Incorporating a long-term, landscape-level view of forest management in planning and practice.
- Not harvesting more than is growing over the long term.
- Improving forest stands over time in terms of the quality and quantity of forest products available.
- Lengthening woodland rotations to promote the growth of older forests and higher value, large diameter trees.
- Protecting soil and water resources.
- Reinvesting timber sales into forest stand improvement for forest health and more stable in-forest carbon storage.

Each forest parcel is unique, with varying tree species and site conditions, and there is no universal approach to active management. Conservation land trusts and other private landowners can benefit from consulting with professional foresters and other natural resource management professionals on management goals. Federal and state forestry agencies and private woodland owner organizations provide free support and information to get started.

While conservation organizations represent relatively small forestland ownership, at a little over one million acres in New England, they can set a land management standard for family forest owners, and can continue to communicate with corporate owners about climate smart forest practices. Public attitudes about timber harvesting are often influenced by publicity focused on rainforest destruction and other exploitative practices, and harvest sites can also look disrupted. Early and frequent communication is necessary to assure people that any harvesting is consistent with management goals and will have long-term benefits.

Conservation organizations can help lead the way to a future where the public recognizes sustainable timber harvesting as a short-term disturbance in a multi-generational story, and trusts the stewards of these forests to be both responsive and responsible. Knowing that some private and public landowners will continue to manage portions of their forestlands as wildlands, the public can embrace expanding the harvesting of conserved forests and we can more holistically address carbon mitigation.

PROFILE

Great Pond Mountain Conservation Trust (Hancock County, Maine)

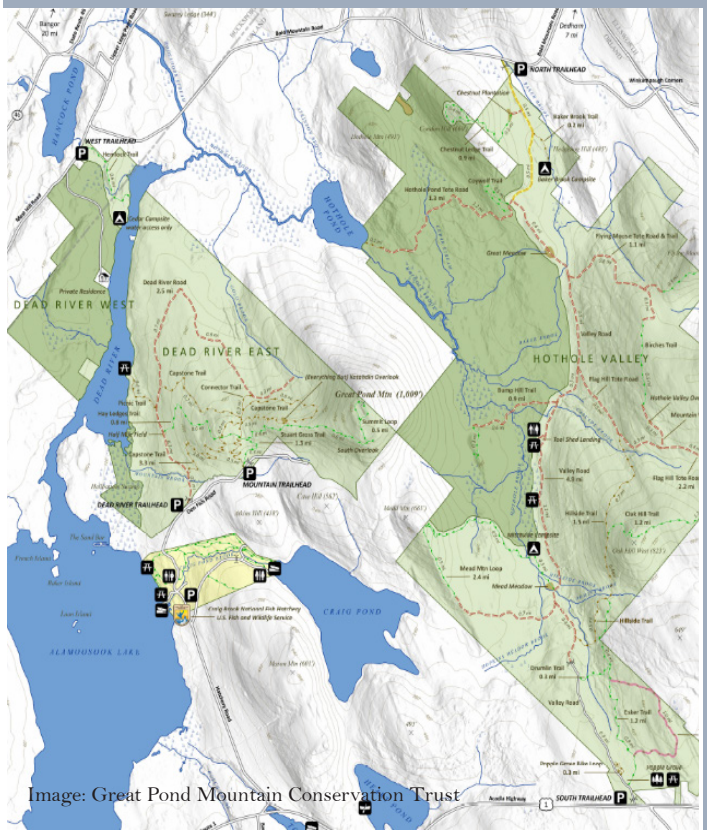


Image: Great Pond Mountain Conservation Trust

The Great Pond Mountain Conservation Trust is a land trust founded in 1993 to conserve land, water, and wildlife habitat for the communities of northwestern Hancock County in Maine. Their goal is to protect wildlife habitat and biodiversity, rural character and scenic beauty, working forests and farms, and opportunities for outdoor recreation and education. The vision of the founders was to conserve the large, undeveloped area on and around Orland's Great Pond Mountain. After an initial acquisition of 4,200+ acres in 2005, this area has since grown to over 5,000 acres. The original 4,200 acres, which had been treated harshly by the previous owner, is now a textbook example of restoration forestry. The Trust has conducted over 1,300 acres of non-commercial forest thinning and numerous road and stream crossing projects as part of its strategy to achieve a future condition where forest product sales provide a sustainable level of income to offset operating costs. The Conservation Trust's forestry efforts earned them the 2023 Maine Tree Farmer of the Year award.

Conservation and Housing Collaboration

When a conservation organization identifies land that may be suitable for housing, the focus must be to develop a project that can meet the needs of the community, while supporting energy efficiency, climate resilience, and long-term conservation goals. There are challenges to introducing these additional goals to a housing development project, including lack of funding to cover increased incremental cost, lack of access to external technical expertise, inability to navigate government incentive programs, and lack of staff know-how (Lincoln, 2024).

In the Kingston Land Trust resource, *An Affordable Eco-Dwelling Roadmap: A guide for land trusts and housing organizations to collaborate on inclusive, holistic, and sustainable affordable housing developments*, seven major phases of developing a housing project are identified:

Pre-Planning: Partnerships and Coalition Building;
Financial Planning;
Planning;
Design;
Construction;
Occupancy and Management; and
Risk Management.

The following are some key points particularly relevant to the intersection of forestland conservation and housing, and the leverage points available to conservation organizations that can help address obstacles.

"Land trusts, with their network of community allies and knowledge of municipal processes and ecological standards, could be a key resource for housing organizations looking to take on projects [like this] in a way that considers the long-term impacts of the development post-construction." (Kingston Land Trust, 2021)

Pre-Planning: Partnerships and Relationship Building

Most conservation organizations do not have the resources, expertise, or capacity to develop a housing project on their own, so collaboration with housing organizations is critical to the long-term success of these endeavors. However, **land acquisition is one of the drivers of affordable housing, and a conservation organization's primary role can be identifying and possibly facilitating land for housing**. Additionally, "land trusts have the potential to offer land protection and a reduced carbon footprint, in addition to providing guidance in ensuring the project is sustainable and resilient, and addresses challenges relating to the human needs of shelter, health, and employment" (Kingston Land Trust, 2021).

Because decisions about what can happen on and with the land usually happen during land acquisition, it is important to establish partnerships and coalitions early and determine the role of community control explicitly (Kingston Land Trust, 2021).

State housing agencies can play a pivotal role in funding and guiding affordable and workforce housing development. These agencies provide housing needs assessments, financial incentives, and regulatory guidance to municipalities, helping them integrate housing solutions into broader land-use strategies (MaineHousing, 2023). There are several additional types of housing organizations, including community land trusts, and partnership models.

Two resources to assist conservation land trusts with identifying housing organization partners and building these collaborations are:

Breaking Ground: An affordable housing resource guide for land trusts, produced by the Yale School of the Environment and the Land Trust Alliance, provides key terms, resources, models, and case studies for "land trusts to gain literacy in the world of affordable housing, while encouraging cross-movement conversation".

Preserving Affordable Homeownership: Municipal partnerships with Community Land Trusts, produced by the Lincoln Institute of Land Policy, provides a thorough review of community land trust models and affordable housing policy.

Financial Planning

Conservation organizations may have networks to attract impact investors to projects who are willing to support creative solutions that integrate housing, conservation, rural economic development and climate goals.

Projects led by non-profit collaborations that provide affordable homes alleviate the burden on governments. "Furthermore, even when a local government helps defray a community land trust's cost of local stewardship, subsidizing the nonprofit organization to perform these specialized duties will always be less expensive than paying municipal employees to do the same." (Lincoln Institute, 2024) However, most public policy-supported housing programs and funding are siloed from opportunities to develop conservation benefits; housing groups, even if plans include access to open spaces, can typically only get funding to build housing, while conservation groups can only receive funding to conserve land (Lincoln Institute, 2024). This may necessitate looking beyond government-funded programs, and at policy change. Incorporating energy-efficient, climate-adaptive design can also improve long-term affordability and appeal to impact investors interested in sustainability and social equity.



Photo: Brian Donahue

Planning

While municipalities play a critical role in zoning and regulatory flexibility, ensuring that housing policies align with both affordability and conservation goals (American Planning Association, n.d.), zoning in rural communities is often unclear and/or does not reflect the current needs of the community. Smaller communities may be limited in their capacity to address zoning issues. When zoning and housing policy is unclear, it can dissuade housing developers who are looking for certainty that their projects will be accepted by the community before they invest funds in developing projects. As a private landowner, conservation land trusts can specify exactly what they want to see happen on their land, giving developers something definitive to respond to without fear that the community will change its mind. Communities can be more proactive with housing developers if they have relationships with conservation organizations.

In planning and advancing a project, conservation organizations will need to consider how they can assert influence over permanent affordability for housing. Without an entity that can hold the land for housing in perpetuity, it will not remain immune to the pressures of the real estate market (Peverall, 2022).

Design and Construction

As a collaborator, conservation land trusts can also have influence over the design and construction of housing development, incorporating both environmental design and green building principles.

A variety of housing typologies can support rural housing needs while maintaining the character of New England's small towns. While single-family homes remain the predominant rural housing type, alternative models such as duplexes, small multi-unit developments, and accessory dwelling units

PROFILE

Jones Marsh Neighborhood (Bar Harbor, Maine)



Photo: Island Housing Trust

The Maine Coast Heritage Trust and Island Housing Trust collaborated to purchase a 60-acre property in Bar Harbor, Maine. Half of the property, containing a peat bog and forested wetland abutting an ecologically significant marsh, is managed as wildlands. The other half of the property, comprised of uplands adjacent to a busy highway corridor, was developed into ten affordable workforce housing units. The Island Housing Trust retains ownership of the land and sells the homes and improvements with affordability covenants and a 99-year lease of the underlying land. Homeowners pay property taxes only on the home and improvements.

(ADUs) provide higher-density options that use land efficiently while maintaining rural aesthetics (MaineHousing, 2024). Conservation-oriented designs, such as clustered housing and conservation subdivisions, allow for greater housing density while preserving working landscapes and open space (Smart Growth America, n.d.). These approaches balance development pressures with sustainable land use, ensuring that rural communities meet housing demand without contributing to sprawl and forest fragmentation (The Nature Conservancy, n.d.).

Energy efficiency and climate resilience are also both central to modern rural housing development and retrofit of existing housing stock in New England. Incorporating high-performance insulation, solar energy integration, weatherization, and storm-resilient designs lowers energy costs and improves sustainability and can contribute to long term housing affordability.

Locally sourced wood products reduce the carbon footprint of construction while supporting Maine's forestry economy. Research from MIT's Climate Portal highlights that wood-based construction emits significantly less carbon than traditional materials like steel and concrete. Wood not only requires less energy-intensive production but also stores carbon throughout its lifecycle, making it a more sustainable and climate-friendly building option (MIT Climate Portal, 2023). By utilizing local and regional wood, construction projects can minimize transportation emissions while reinforcing a critical economic sector (Maine Forest Products Council & UMaine Center for Research on Sustainable Forests, 2021).

PROFILE

Northern Forest Center
Gehring House (Maine)

Photo: Northern Forest Center



Redevelopment of existing housing stock and land is a preferred model for balancing conservation and development in rural communities. A prime example is the Gehring House redevelopment project in Bethel, Maine. This project aims to address workforce housing shortages while supporting the local forestry sector. The renovation prioritized the use of locally sourced wood materials, integrating wood-based insulation, a wood pellet boiler, and regionally milled lumber to enhance sustainability and reduce environmental impact. The wood-based insulation improves energy efficiency, while the wood pellet heating system offers a renewable alternative to fossil fuels. Additionally, all new framing lumber and pine clapboards are sourced from local mills, ensuring that the project supports Maine's forestry sector and minimizes transportation emissions (Northern Forest Center, 2024). Beyond material selection, the project actively engages local tradespeople and contractors, ensuring that economic benefits remain within the community. The redevelopment provides nine housing units for moderate-income, year-round residents, addressing Bethel's housing shortage while preserving a historic structure.

Photo: Northern Forest Center

Using sawmill residuals and low-value wood in applications such as biofuels that offset oil-based energy and innovative composite building materials such as wood fiber insulation furthers climate benefits.

Use of Local and Regional Wood for Housing Construction

From a climate and forestland conservation perspective, environmental gains are maximized when housing is built using wood that is harvested and processed near the building site. This minimizes transportation emissions while also supporting local forest-based economies. When transparent, community-based networks can be established that are oriented to conservation, climate smart forest management practices are also supported. However, building with wood harvested locally or regionally is not as straightforward as it sounds – a surprise for some New Englanders who see a forested landscape and assume that the building materials for sale in the northeast are from trees grown and processed in New England.

To understand why this is the case, it is helpful to understand the process by which a tree is turned into a piece of wood that may be used in housing construction (as opposed to pulp for paper products, firewood, etc.). Once harvested, trees are sorted by tree species and graded for quality and end use – for example, a large, straight tree might be sorted for long lumber or beams. They are debarked and go through an initial sawing process. The logs are then dried in kilns before going on to a second transformation into a product, be it structural lumber, trim, siding, etc. Construction lumber goes through an additional grading process. At every step, the byproducts – bark, slabs, sawdust – are typically collected and used in various applications.

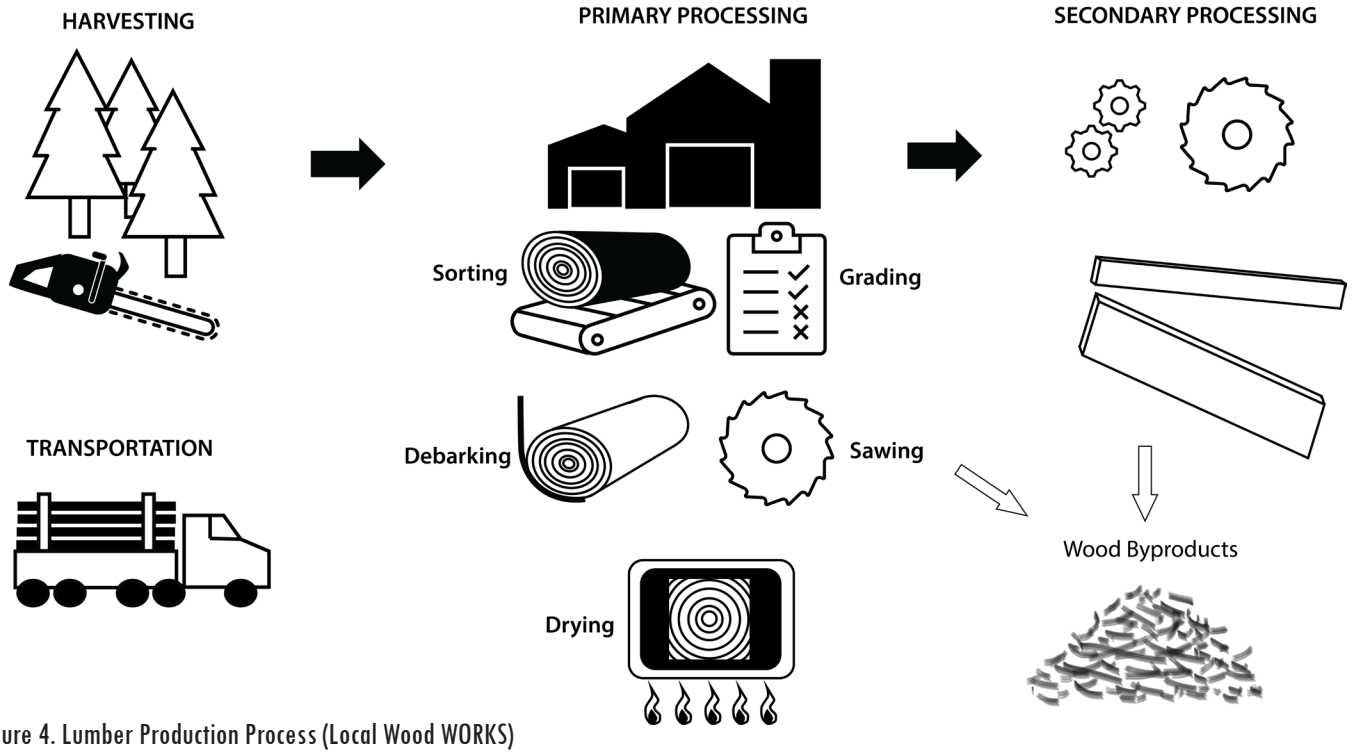


Figure 4. Lumber Production Process (Local Wood WORKS)

New England's larger mills and wood processors serve regional markets with two-way wood flows between the New England states, New York, New Brunswick, and Quebec; they primarily source logs from forests owned by corporations and some public lands. Once a log enters these regional markets, its origin is not often clear to the end consumer. Entrenched building supply systems rarely have incentive or requirement to seek out or promote New England wood products.

Local small mills, processors, and craftspeople serve local markets; they primarily source logs from family forest owners and land trusts. Smaller mills are often quite specialized, and in many cases do not have the drying and grading capacity needed for producing construction grade lumber. Their production times can be much longer, and the end cost can be higher.

Housing development projects will likely not be able to rely solely on local markets. However, there are several things that conservation organizations can use their influence to promote amongst their housing collaborative partners:

- **Asking for local and regional wood products**; in the case of housing development that is receiving government funding, there may be "Buy American" requirements that can be met by local and regional wood products. The more that local and regional wood is requested, the more the market signal is sent that it's important.

- **Buying directly from a sawmill** when possible. There are many wood products including rough- sawn boards, posts and beams, shingles, and decking that are all available from custom sawmills. These mills typically buy logs harvested within a short radius of the mill.

- **Buying from locally owned retail lumber stores**. These tend to have shorter supply chains (many own their own forestlands and sawmills), and chances are much higher that the wood is from the region.

- **Buying certified wood** when possible. Certified wood can be found in large national chains and in some retail lumber yards. The forestry behind this lumber is audited by a third party and the lumber tracked from stump to retail through a chain of custody. Certification is a seal of approval for forestry that protects timber stocking levels, water sources, soil health, and wildlife habitats. The two most prominent certification systems include the Forest Stewardship Council (FSC) and the Sustainable Forestry Initiative (FSI); look for these stamps on the face of dimensional lumber or in promotional materials for wood products. Note that certified wood is not explicitly protective of carbon storage, nor is it necessarily from New England.

As noted earlier, there are currently workforce shortages to build housing, leading to the pursuit of innovative construction approaches to reduce costs and workforce needs, such as wood composite boards, and biomaterial 3D printing. These often use wood waste products from harvests and sawmills, but they do require centralized processing, leading to a complex carbon lifecycle.

PROFILE

Zero Energy Homes (Maine)

Zero Energy Homes has a mission to build affordable homes that generate as much energy as they use and are constructed with more than 80% Maine-sourced materials. The first demonstration single family home in Searsport, Maine was completed in 2025, with plans to scale up with a modular construction facility, and expand into multi-family designs. Caroline Pryor, the CEO of Zero Energy Homes, is committed to the use of Maine products and suppliers to support the local economy. This includes Maine wood products: dimensional lumber for the structural frame, wood-fiber insulation, exterior siding, flooring, cedar decking, and interior trim.



Photo: Zero Energy Homes

ZERO ENERGY HOMES
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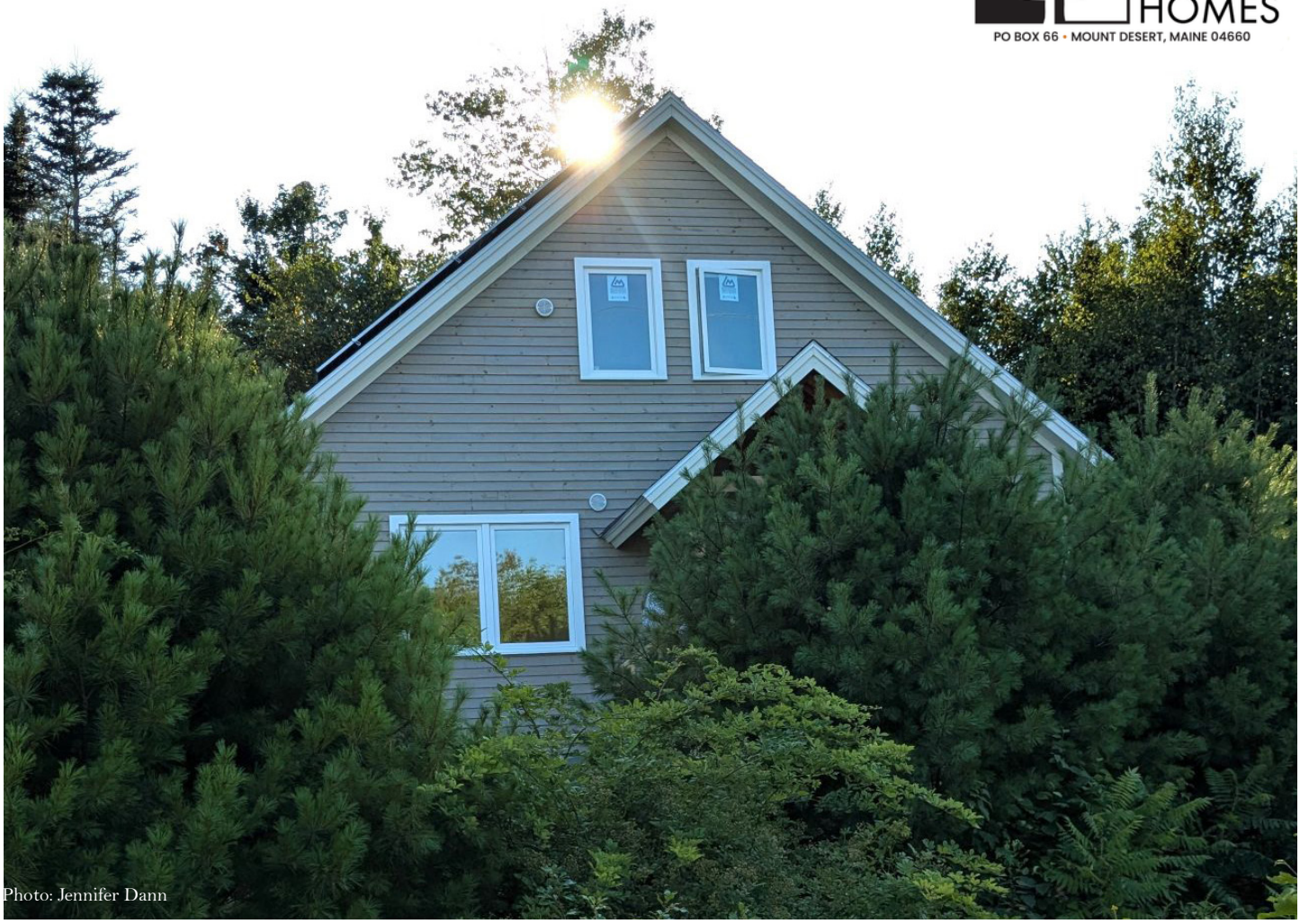


Photo: Jennifer Dann

New England Wood Products Used in Housing			
Wood Product	Uses	Availability as a Supply for Housing Construction	
		Small Mills Serving Local Markets	Large Mills Serving Regional Markets
Softwood (Spruce-pine-fir) construction lumber	Framing Manufactured homes	Little	Most
Panel Products	Sheathing Subfloor	None	Some engineered panels oriented strand board
Hardwood and softwood boards	Flooring Interior Trim Doors Cabinets Furniture	Some	Hardwood - some Softwood - most
Large softwood and hardwood timbers	Timber frames Log houses	Most	Some
Softwood logs	Log houses	Few	Almost all
Wood fiber board, batt, and fill	Sheathing Insulation	None	All
Clapboards, shingles	Siding Roofing	Little	Almost all
Mass Timber: Cross laminated timber, glue laminated timber, nail laminated timber	Beams Wall, floor, and ceiling panels	None	None

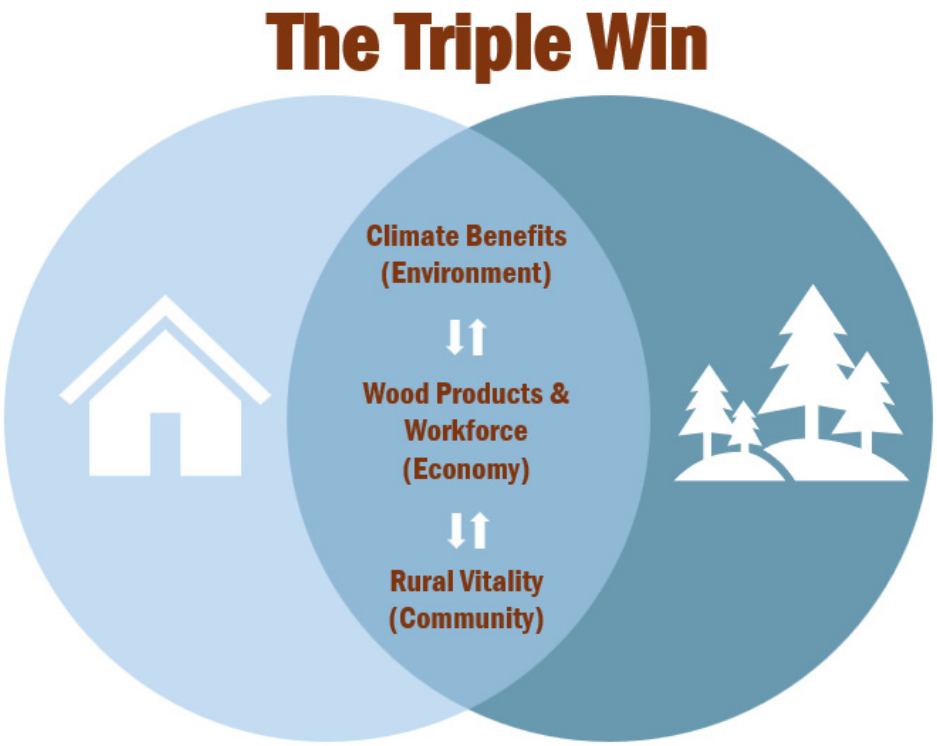
Source: Compiled by project team

What's Next: Achieving the Triple Win

At the intersection of forestland conservation and housing, there are opportunities for conservation organizations to work with community and land use planners, housing organizations and developers, and wood producers and suppliers to achieve:

- **improved climate outcomes** as we practice climate smart forestry, reduce our import of wood from other regions, and use forest byproducts to reduce energy usage.
- **increased economic opportunities** as we produce and use more wood locally/regionally, supporting a workforce and rewarding landowners for growing trees instead of losing forests to unplanned development.
- **rural communities** with permanently affordable housing, strong forest economies, and equitable access to nature.

These opportunities can be pursued concurrently and cohesively with more practiced conservation goals.



There are barriers to this work that will require thoughtful collaboration to address, including:

- State laws and funding programs that are often designed exclusively to support either affordable housing or land conservation in isolation from the other (Hudson Valley Alliance, n.d.).

- Success of land conservation historically being measured in terms of the number of acres conserved, with many states having specific acreage conservation goals, metrics that aren't designed to reward more complex projects such as thoughtful and appropriate housing development (Lincoln Institute, 2024).

- Sourcing wood locally and regionally can be expensive and time consuming, and is not well recognized as an additional value in green-building rating systems or in climate plans.

Each of the New England states is unique in their policy, housing needs, forestland conservation goals, and existing collaborative efforts; for example, Vermont has the Vermont Housing and Conservation Board, which since 1987 has had the dual goal of creating affordable housing and conserving and protecting Vermont's agricultural land and forestland and other important lands and values. Rhode Island, the state with the least amount of forestland, established the Rhode Island Forest Conservation Commission in 2021 to address objectives that include assessing and recommending new funding sources to conserve forest land across the forest continuum of rural to urban landscapes.

This paper's contributors hope that conservation organizations in all New England states can integrate aspects of this paper's analysis to **move their work forward at the intersection of housing and forestland conservation to achieve the triple win of climate, economy, and community**.



Photo: Jennifer Dann

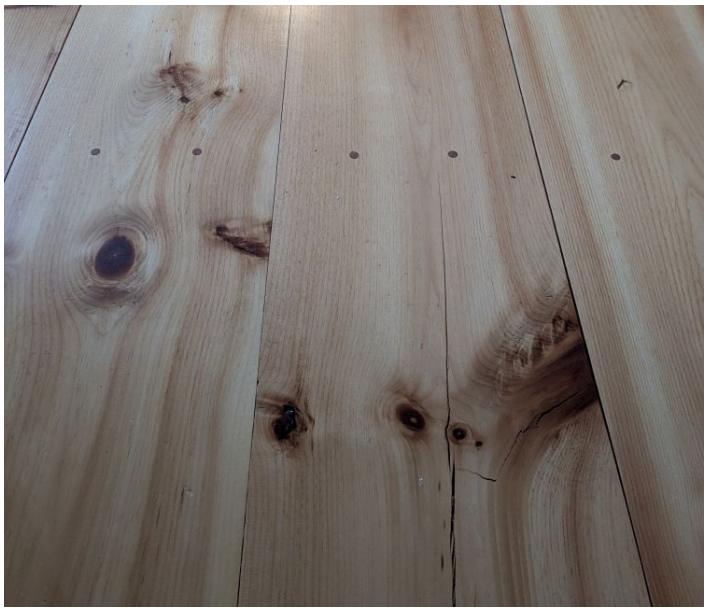
What's Next for Maine's Triple Win

Maine is perhaps best poised to act on the recommendations of this paper given the state's wide-ranging housing needs (rural to suburban to urban), forest resources and long-established forest-based economy.

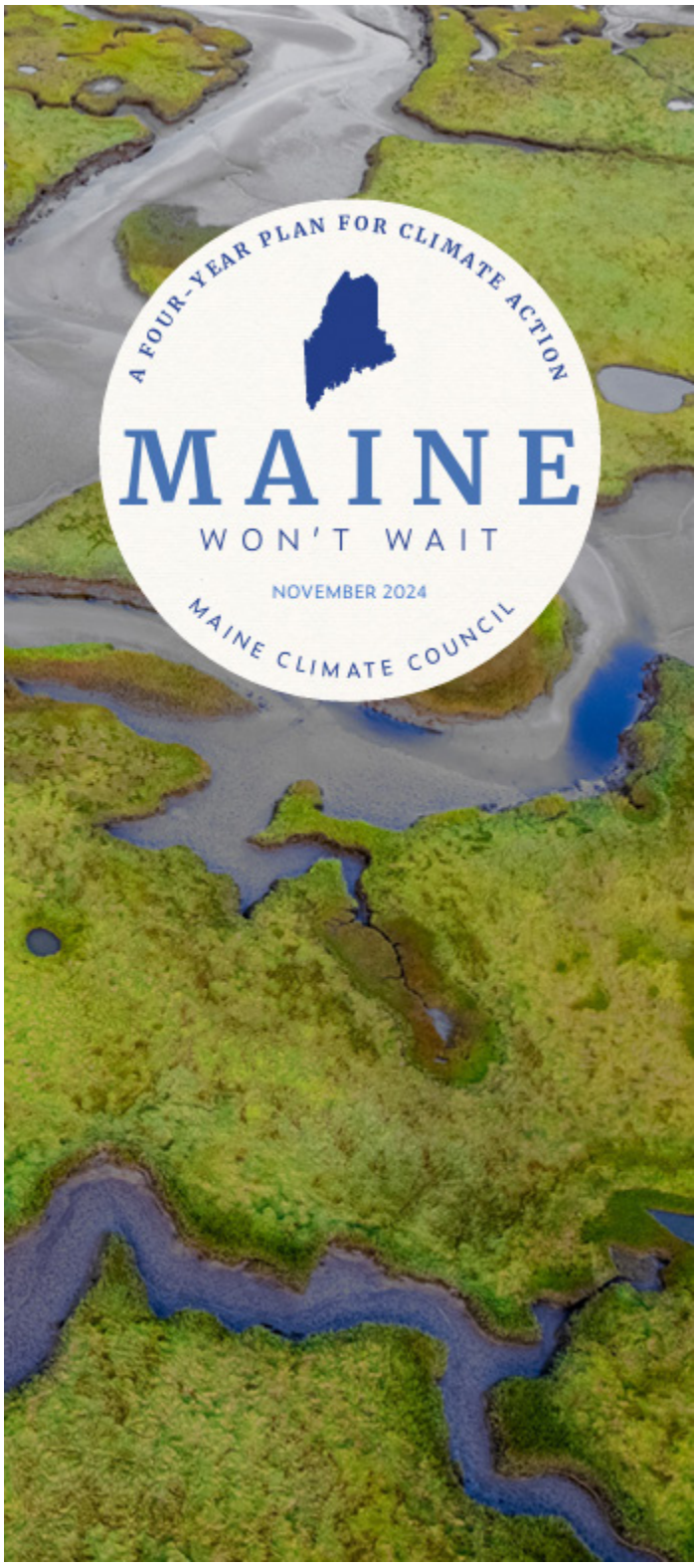
Maine faces a critical housing production gap that must be addressed to meet the state's growing population and workforce needs. The 2023 State of Maine Housing Production Needs Study recommends at least 84,300 housing units be developed by 2030 to address historic underproduction and projected growth and demographic shifts (MaineHousing, 2023). While all regions of Maine face housing shortages, two of the state's most rural counties—Aroostook and Washington— have been projected by MaineHousing to need an increase in housing production at a rate significantly higher than the rest of the state. The combination of an aging population, workforce shortages, infrastructure limitations, and economic development constraints further complicates housing production in these areas.

Maine forests are the primary carbon sink in Maine natural ecosystems, absorbing more carbon dioxide from the atmosphere than they release, and are critical to Maine meeting its carbon neutrality goals. The highest vulnerability to the forests from climate change is in the rural northern and western parts of the state (Maine Climate Council, 2024).

Maine forest products sectors contribute more than $8.1 billion annually, and **Maine produces 70% of the volume of wood products from New England** (Littlefield, et.al., 2024). Maine's forest economy is closely entwined with Eastern Canada; wood harvested in northern Maine is frequently transported to Canada for initial processing and back to Maine for final processing and sale. The Federal administration approach to international trade could have significant implications to local wood markets.



Maine enacted LD 2003, **"An Act to Implement the Recommendations of the Commission to Increase Housing Opportunities in Maine by Studying Zoning and Land Use Restrictions"** in April 2022. The law is "designed to remove unnecessary regulatory barriers to housing production in Maine, while preserving local ability to create land use plans and protect sensitive environmental resources." (DECD n.d.) This legislation can empower new and creative opportunities for Maine conservation organizations to work with regional planning entities to work at the intersection of housing and forestland conservation.



Maine's Climate Action Plan, **Maine Won't Wait**, contains several strategies that provide a good framework for regional collaborative work between forestland conservation and housing:

- **Strategy B4:** Promote the manufacture and use of climate-friendly building products.
- **Strategy D2:** Help Maine businesses and natural resource industries succeed in the global climate and clean energy economy.
- **Strategy E1:** Increase the total acreage of conserved natural and working lands in the state to 30 percent by 2030.
- **Strategy E2:** Develop new incentives to increase forest carbon storage, including providing incentives, technical assistance, training, and education to forest landowners, foresters, and loggers to increase the use of climate-friendly practices.
- **Strategy E5:** Support farming, forestry, and fisheries industries in Maine in adapting to climate change.
- **Strategy E8:** Promote and incentivize land use strategies that help communities avoid future transportation emissions, conserve natural and working lands, create affordable housing, and meet the state's clean energy goals, including expanding capacity at the state, regional, and local level to provide technical expertise to support communities in effective land use planning.

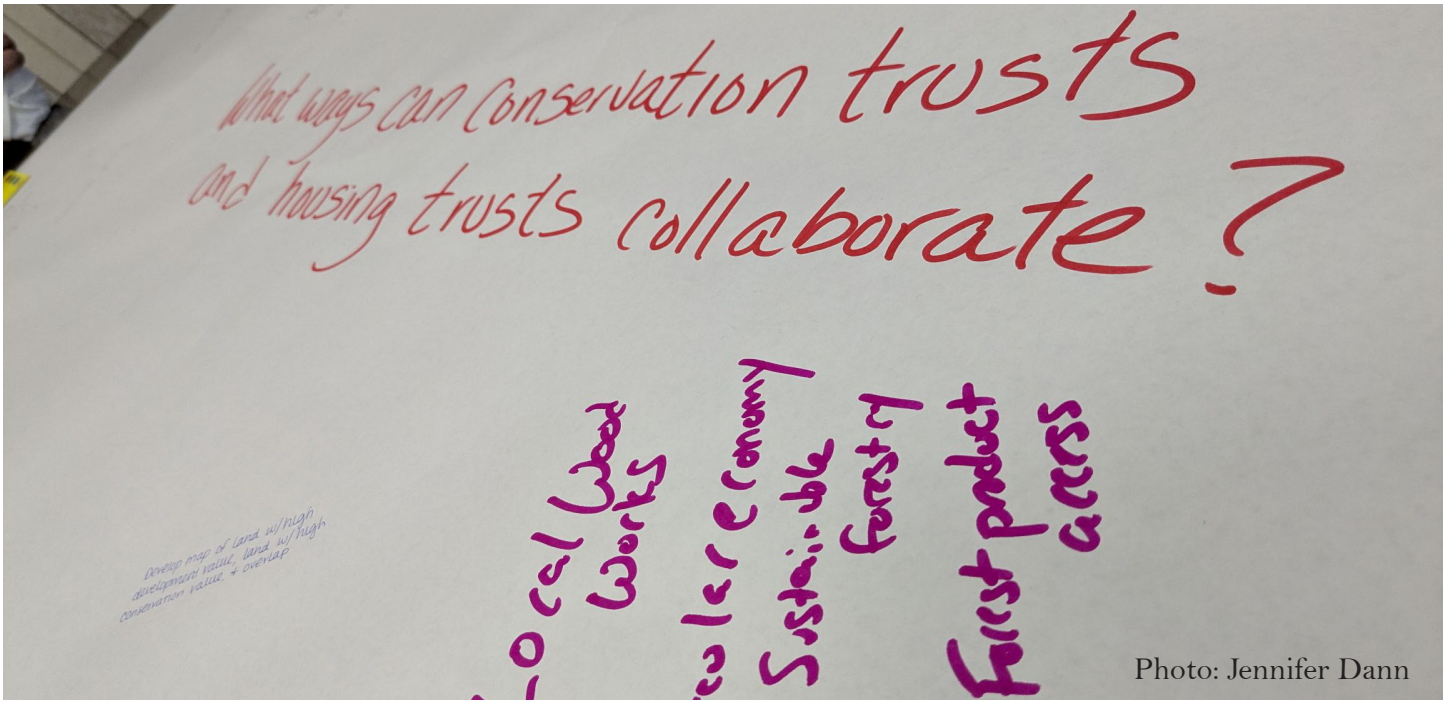


Photo: Jennifer Dann

Several Maine conservation organizations are exploring potential collaborations between housing and conservation entities, but more is needed. While Maine has close to 80 land trusts, there are less than a dozen housing trusts.

The following are recommendations for Maine's conservation organizations interested in working at the intersection of housing, rural economic development, and forestland conservation:

Analyze Local Data. The State of Maine Housing Authority has useful dashboards to help understand housing challenges in a conservation organization's service area. An example analysis can be found in the Kennebec Land Trust's paper, Conservation Land Trust and Community Land Trust Partnerships: Workforce Housing with Community, Conservation, and Ecological Benefits (Livingston, 2024). Research local municipalities' comprehensive plans for housing needs, and identify local housing land trusts and other local housing organizations that may have goals the conservation organization can support.

Start Conversations. Proactively engage with Board members and staff on how housing and rural economic development might intersect with the organization's conservation mission. Talk to municipal staff about community housing needs and the role the conservation organization might play. Meet with local housing organizations to understand their goals.

Engage in Regional Land Use Planning. The new Maine Office of Community Affairs office will reorganize seven existing state programs involving land use, housing and flood plain planning, as well as building codes, coastal management, and climate resilience, starting in the Fall of 2025. The office partners with Maine communities to strengthen planning and implementation at the local level. Utilize and provide feedback on the office's new initiatives and tools as they are developed.

Explore Forest and Sustainable Timber Management. Connect with Maine's resources on forestland management and climate smart forest practices. Request a visit from your Maine Forest Service regional forester, and get connected with their resources for landowners. Consider whether the conservation organization can implement climate forestry practices, and even harvest timber for use in local markets. The non-profit organization Maine Woodland Owners, itself a conservation land trust, is a good resource for practical advice and guidance on forest practices and their implementation on conservation lands. The Maine Organic Farmers and Growers Association has a low impact forestry program that educates, practices and advocates for ecologically based and economically-sound forest practices.

Promote Local and Regional Wood Use. Conservation organizations have memberships of people committed to environmentally-sound practices in their personal lives. Communicate with this membership on the environmental and economic significance of using local and regional wood products, and encourage membership to source wood from as small a geographic scale that is still economically and logistically possible. Local Wood WORKS is a Maine partnership that promotes Maine wood as a path to conserve forests; their Maine Wood Guide provides connections to Maine wood businesses.

Participate in Convenings. The Maine Land Trust Network, GrowSmart Maine, and Local Wood WORKS have conferences and/or local convenings that reserve space and time for collaborative conversations about housing and conservation.

The nascent **Maine Shared Equity Housing Network** is seeking ways to engage with the conservation community, and led a well-attended collaborative group discussion session at the 2025 Maine Land Trust Network conference.

Stay Connected. To engage further on the Triple Win intersection of housing and forestland conservation, connect through any of the project partners listed at the beginning of the paper.

Send comments and suggestions on how to make this paper better and go further to: jennifer@localwoodworks.org

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