

New England Forests: The Path to Sustainability



THE PATH TO SUSTAINABILITY

KEEP NEW ENGLAND FORESTED

Conserve 90% of New England's existing forests

GIVE WILDLIFE HOMES

Provide critical habitat for 338 diverse species

PROVIDE MORE RECREATION

Contribute more than \$5 billion to the New England economy

GROW AS MUCH AS WE USE

Meet our consumption with wood from local forests

YOU ARE HERE ▼
SUSTAINABILITY

PROTECT US FROM CLIMATE CHANGE

Reduce extent and impacts of heat waves, floods, and drought

REDUCE USE OF FOREIGN OIL

Displace \$1.85 billion of oil annually with wood heat

CLEAN & COOL THE AIR

Save \$700 million per year in health costs and crop losses

GROW MORE WOOD

Enhance quality and double wood production

PURIFY OUR WATER

Save \$6 billion in water treatment costs

PROVIDE MORE WOOD FOR BUILDINGS

Save 3.5 million metric tons of carbon

CULTIVATE NEW BUSINESSES

Create new cottage industries using non-timber resources

CREATE LOCAL JOBS

Retain 30k jobs and increase exports to more than \$10 billion.

New England's forests have tremendous potential to provide economic, environmental, and social benefits to the citizens of the region. Right now, we're letting some of that potential slip away. Through 12 new research reports, New England Forestry Foundation has defined the benefits our region's forests could provide, and those benefits are summarized here along the Path to Sustainability, starting with the premise that we Keep New England Forested.

NEW ENGLAND FORESTRY FOUNDATION

New England Forests: The Path to Sustainability

By Robert T. Perschel, R. Alec Giffen, and Frank Lowenstein



Forests define New England . . .

Which of us has not been dazzled by the fierce orange of sugar maples in the fall, enjoyed a paddle along a forested lakeshore, skied down a forested slope, or picnicked in the shade of a stately tree in a town or state park? Forests are part of New Englanders' daily lives.

Nearly all of us rely on forests for the quality and abundance of our region's outstanding drinking water. Forests cool and clean our air, support 30,000 jobs in the forest products industry, and provide heat to 14% of New England homes.

Trees are central to the quality of life and the economic competitiveness of the region. This report reveals forests' existing contributions and future potential to support New Englanders' lives and lifestyle. It puts forward the first steps we collectively need to take to seize that potential to ensure a sustainable future.

Regional Sustainability and the Potential of New England's Forests

The concept of sustainability gains importance every year. We live in a world of growing populations, competition for finite resources, and increasing fluctuations in the costs of basic commodities. A bright future depends on securing a sustainable flow of the products we need in light of these trends, and demands consideration of the type and volume of products we use, where they come from, and how they are produced.



Public interest in local food and renewable energy are two salient first steps towards a broader focus on a sustainable economy. With respect to food, many people seek out local, fresh, and sustainably produced items, available in part thanks to the region's vibrant local foods movement.

Similarly, individuals, businesses, towns, and state agencies across New England have increased production of local, renewable solar and wind energy. Yet hiding in plain sight is New England's most significant resource for regional sustainability: our forests.

The New England states are among the most forested in the nation. But while each New Englander consumes over a ton of wood each year in building products, furniture, paper, and energy, in parts of the region very little of that wood comes from our abundant local forests. In Massachusetts, for example, although 62% of the state is forested, only about 6% of the wood fiber used comes from within the state. Instead, wood products are imported from Canada, and increasingly from Latin America and Asia.

With more emphasis on local wood, we could be more certain that our wood is harvested sustainably and is not contributing to environmental degradation. Take a look around you. How many of the products in your view are made of wood? How many from fossil fuels extracted from deep within the earth at great cost to our environment and the climate that our civilization depends on? Could wood products substitute for other items, reducing climate change and bolstering our regional economy?

New England's forests are the ultimate green resource for sustainability. Right now they are an underappreciated, underutilized resource. This report alerts New Englanders to the potential for sustainability right in our collective backyard—our regional forest resource. It inserts the use of local wood into its rightful place as an important component of achieving sustainability. This summary presents the most important

findings from twelve detailed technical reports, and we invite you to fully explore them at your leisure at www.newenglandforestry.org/our-initiatives.

Forests are among the most beautiful, revered, inspiring, and productive ecosystems on earth. Millions of people every year journey to visit forests, including gems like our own White and Green Mountain National Forests and Acadia National Park. Trees are some of the oldest and largest organisms on the planet. Trees inspire feelings of peace and tranquility—they even have been documented to speed healing from surgery.

So it is no surprise that it can be emotionally difficult to harvest a tree—to end the life of an organism that has grown for decades or longer. We form relationships with trees and come to identify the events in our lives—childhood, family, the birth of children of our own—with their presence. We plant trees to commemorate a birth or death or an important public event. Trees appear in our poems, our paintings, and our songs. When they live interdependently in forests, they signify that the whole is greater than the sum of the parts, teaching us that when we live together as whole communities and nations, we can be more than we are as individuals.

**The path to sustainability runs through a forest
that remains one of the world’s most beautiful landscapes—
one that continues to deliver clean water and air,
supports habitat for native wildlife, provides opportunities for recreation,
and continues as the backdrop for our historic New England communities.**

Foresters are acutely aware of these complex connections between people and trees. People love trees, but the wood products that sustain our lives can be obtained only by harvesting them. These contradictory ideas must be reconciled on the path to sustainability. If wood products derived from our forests are the most environmentally sound products available, we should use more of them to ensure our present and future sustainability. But as we ask more from our forests, we need to do so with wisdom. We need to manage our forests with love and respect. We need to protect an adequate amount in reserves that we don’t harvest, but appreciate and learn from. We need to ask no more from our forests than they can give.

Practicing forestry in a sustainable manner requires working within the limits of a natural system to produce the products necessary for a prosperous society. This definition is crucial because we acknowledge that not all tree harvests meet the standards of sustainable forestry.

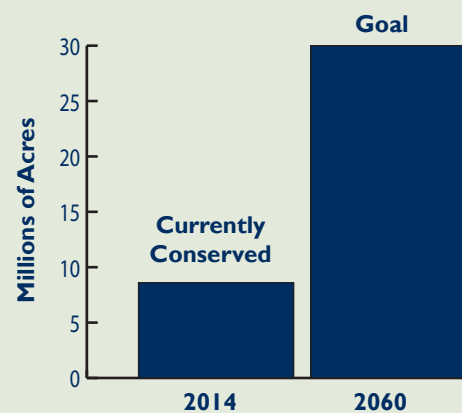
This report looks to a future in which we do meet those standards of sustainability. It examines the amount of useful, environmentally sound forest products, amenities, and benefits our New England forests could deliver. It suggests a future forest that provides many more products than today; those products could substitute for less environmentally sound products we use now. The path to sustainability depicts a forest that remains one of the world’s most beautiful landscapes, continues to deliver clean water and air, supports habitat for native wildlife, provides opportunities for recreation, and forms the backdrop for our historic New England communities and a cherished way of life.

NEW ENGLANDERS CAN . . .

Keep New England Forested



Keeping New England forested is critical to the benefits articulated throughout this report. We can stop the loss of forest land to development and permanently conserve 90 percent of our remaining forest.



> Opportunity

Many conservation innovations originated in New England. New Englanders have worked for more than a century to keep our landscape intact and woven into our lives. Many New Englanders envision children and grandchildren enjoying natural products, recreating in our beautiful forests, and experiencing the same emotional and spiritual attachments to rural beauty as we enjoy today. We've already made significant investments in this vision by protecting 8.6 million acres of forest land. According to the Harvard Forest's *Wildlands and Woodlands vision*, if we increase the pace of conservation and protect a total of 30 million acres (3 million in reserves and 27 million of managed forests) by 2060 we will ensure that New England looks and feels like New England for all future generations.



> Why This is Important to You

Seeing the fall colors turn our hills into one of the planet's most beautiful sights. Watching your children play in a clear, cool forest stream. Catching a glimpse of a colorful warbler, a turkey, or an elusive bobcat. Drinking pure water direct from your tap. Knowing that there still are wild places not far away. Buying locally produced, environmentally-friendly wood products. All of these, and many more amenities can continue to be available to you and future generations if we act now.

> Facts

To tap the potential of our forest lands we first have to ensure that they remain forests. Development takes a bite every day, and forest cover is declining in all New England states.

The good news is that 8.6 million acres of forest have been permanently conserved. Most of that total is owned by public agencies or conservation organizations, with the remainder being private lands covered by conservation easements. About two million acres of the conserved lands are "reserves" where natural forces will shape the forest and no timber harvesting will take place. This leaves about 6.6 million acres of conserved lands available for multiple uses.

The existing reserve acreage represents two-thirds of the three-million-acre Wildlands and Woodlands reserve goal. In contrast, the existing conserved multiple-use acreage is only one-quarter of the 27 million acre goal for that type of land conservation. The primary future conservation need is to maintain multiple-use lands and to encourage exemplary management practices that increase productivity for timber products and forest-based benefits, such as clean water, pure air, and recreational opportunities.

NEW ENGLAND FORESTS CAN . . .

Give Wildlife Homes



Enjoying native wildlife is one of the benefits of living within one of the greatest and most intact temperate forest ecosystems on the planet.

> Opportunity

New England hosts 137 different plant communities that provide habitats for 225 bird species, 64 mammals, and 49 amphibians and reptiles. Our extraordinary wildlife includes:

- The largest moose population in the lower 48;
- The vast majority of the nation's remaining wild brook trout populations;
- Many migratory bird species, including 22 warblers, which return to New England each summer to breed; and
- Populations of endangered species like Canada lynx and Atlantic salmon, and species in sharp decline such as the New England cottontail.



Sustainable forest management with well-designed ecological reserves can enhance wildlife habitat for the full range of native species.

> Why This is Important to You

Enjoying native wildlife is one of the benefits of living within one of the greatest and most intact temperate forest ecosystems on the planet. New Englanders can observe white tail deer or turkeys crossing the road, watch lynx slip through a snowy clearing, witness a moose rise up out of a remote pond, film the rare New England cottontail, or hunt for woodcock or ruffed grouse.

> Facts

The richness of New England's fauna reflects the broad range of climatic conditions in the region. For example, in Maine alone, the climatic range is equivalent to that extending from central Europe to northern Scandinavia. An array of different climatic conditions leads to a corresponding variety of plant communities, which in turn sustains our amazing diversity of wildlife.

Since European settlement, the greatest change for New England wildlife has been the conversion of forest to agricultural lands, and subsequently the regeneration of many cleared lands back to forest. Throughout the late 19th and early 20th centuries, forests grew back on abandoned farmland creating large expanses of young forests (up to 60% of forest land) which provided abundant habitat for species such as New England cottontail, woodcock, and many migratory birds. However, over the last 50 years, the percentage of young forests has declined to under 10% (except in Maine) resulting in the serious decline of 65 wildlife species. Other species, including American marten and a number of bird species favor older structurally complex forests that are also in short supply. A solution is to thoughtfully manage the region's forests for habitat diversity, including both young woodlands as well as forest reserves for species that need older forests.

NEW ENGLAND FORESTS CAN . . .

Provide More Recreation



New England's forests support multi-day canoe trips, whitewater rafting and kayaking, day hikes and backpacking treks, cross-country and downhill skiing, hunting and fishing, mountain biking, snowmobile and ATV trails, and more.

> Opportunity

Forested mountains and shorelines, streets lined with stately trees, forested urban parks, and suburban woodlands are the heart of New England's beauty and charm. Forests cover three quarters of the region, including both vast wild tracts and neighborhood woodlands in nearly every town.

New England's forests support multi-day canoe trips, whitewater rafting and kayaking, day hikes and backpacking treks, cross-country and downhill skiing, hunting and fishing, mountain biking, snowmobile and ATV trails, and more. This diversity of available activities is unique. Forest recreation is not only part of the way of life in New England, but also a major economic contributor, particularly in rural areas. New England's forest recreation opportunities are the most diverse and interesting in the eastern United States.

Retired Bowdoin College economics professor David Vail studies recreation trends in New England. He states, "Forest-based tourism's direct and indirect contribution to New England's combined gross state product is on the order of \$5-7 billion dollars annually—close to ten percent of the forest region's total economic activity."



> Why This is Important to You

The diversity of forest-based recreational activities available in New England is striking. By making strategic investments in recreational opportunities and businesses, we can give you not only greater access to our wild rivers, rugged peaks, remote ponds, and native wildlife, but also expanded economic opportunity. Making outdoor recreation more accessible will help families to spend time together outdoors, and give children a lifelong love of nature and experiences that no virtual world can match.

> Facts

Outdoor recreation in the United States is declining in popularity, reflecting perhaps both the aging of the population and the rise of electronic entertainment. As the U.S. population ages, recreation experts expect increased demand for hospitality amenities. The right suite of public and private investments could help keep outdoor recreation appealing and add tens of millions of dollars a year to the New England economy. In rural areas, strategic investments could dramatically improve both family income and community sustainability with new jobs.

Seventy-five percent of New England's 32 million acres of forests is in private ownership. The vast majority of this forest region is made available to the public for recreation at no cost through the generosity of both large and small forest landowners. If recreation access is to be expanded it will require working closely with private landowners.

NEW ENGLAND FORESTS CAN . . .

Protect Us from Climate Change



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New England's extensive forest cover can play an important role in our response to climate change.

> Opportunity

If we maintain our New England forests and manage them well, we can reduce the buildup of carbon dioxide in the atmosphere and help do our part to maintain a predictable, livable climate. At the same time, forests can reduce the impacts of climate change on our communities and make our living environments more comfortable.



> Why This is Important to You

Scientific projections indicate it is going to get hotter and rain more heavily in New England—trends that already are visible in our weather records. By midcentury temperatures may reach 110 degrees on the hottest days. Our forests can help stem temperature rise by keeping carbon out of the atmosphere. By directly cooling the air, forests can make your life as comfortable as possible as the climate changes.

Heavy rainfall events can cause tremendous damage through flooding. Our forests can buffer us from the worst effects, protecting your family from danger and preventing the worst destruction.

> Facts

Weather and climate records show that New England already has experienced increased temperatures, intensification of extreme precipitation, and intensification of hurricanes—trends that are likely to continue. New England's extensive forest cover can play an important role in our response to climate change. We have identified 26 ways forests can reduce future climate change, including absorbing harmful gases, shading buildings and rivers, and reflecting solar radiation. Trees and forests cool the air by providing shade and by evaporating water through their leaves. This makes living in New England more comfortable. Trees, their roots, and forest litter protect soils. Forest soils absorb heavy rainfalls and release the water slowly. This prevents erosion, cools streams in hot weather, and guides rainfall to settle in lakes, rivers, and reservoirs for future use or enjoyment.

At the same time, our forests will be affected by climate change. Existing trees may suffer from changes in insect outbreaks, invasive species, ice storms, and wind patterns. In order to maintain our forests' ability to protect the health and safety of New England residents, we will have to make some wise choices on how to keep our forests as healthy and productive as possible. Maintaining forest cover is the first step. We also need to use the best science to nurture forests' resilience.

NEW ENGLAND FORESTS CAN . . .

Clean and Cool the Air



Forests and urban trees keep New England's air cooler, cleaner, and healthier.

> Opportunity

New England states rank among the healthiest in the nation, and air quality is one contributor to that. Our forests, including those actively managed for timber, absorb air pollutants, filter and trap particulate matter, and trigger rainfall that helps clean the air. Higher air quality does more than make breathing more pleasant; it reduces respiratory ailments, saves lives, and improves crop success. Forests now provide \$700 million every year in improved human health and agricultural productivity for a net present value of \$17.8 billion.



> Why This is Important to You

Clean air helps maintain productivity and saves lives. It's important to our region's economic competitiveness and to our quality of life. As populations grow and economic activity increases we will need to work hard to maintain our air quality. Forests will help us do that. Maintaining large scale forest cover throughout the region, as well as trees near where you live and work, will provide you, your family and other residents with cleaner air and better health.

> Facts

The forested landscape is a major asset for maintaining air quality. Trees directly absorb pollutants like ground-level ozone and filter tiny particles that can lodge in our lungs. When trees are grouped into forests they create eddies that trap particulate pollution and release organic compounds that increase rainfall that in turn washes pollutants from the air.

Lower pollution means less illness, improved recovery times, and avoided fatalities. Without forests and urban trees, New England would be hotter, more arid, smoggier, and less healthy. Productivity would suffer from a greater frequency of air quality advisory days, discomfort, and illness. Increased ozone and particulate concentrations would increase the prevalence of asthma, bronchitis, heart disease, heart attacks, and other illnesses. Agriculture would suffer from the scorching effects of increased ozone concentrations.

New England's rural counties have some of the best air quality in the country and particulate concentrations three to four times lower than urban areas. In Southern New England ozone and particulate matter carried north and east from the mid-Atlantic and mid-west gives rise to higher rates of asthma and other respiratory diseases. Less forest cover within the southern part of the region results in less filtration and absorption. That is why it will be critically important to maintain and restore urban tree cover and urban-suburban blocks of forest.

NEW ENGLAND FORESTS CAN . . .

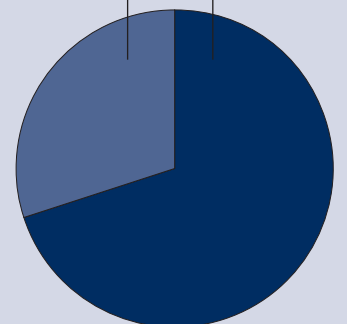
Purify Our Water



© JERRY MONKMAN

New England is blessed with abundant, clean water. Our forests help purify that water for drinking, recreation, and other aquatic life.

30% in remainder of Eastern U.S. 70% in New England



Intact Brook Trout Populations in the Eastern United States

> Opportunity

Water scarcity already affects one in three people worldwide, and is expected to increase due to population growth and climate change. New England, however, is blessed with abundant water. If our natural resources are conserved, they can provide a competitive advantage and secure a high quality of life for future generations. Forests—including those actively managed for timber—filter and purify water needed for drinking, business, energy production, and aquatic organisms. Forests can:

- Reduce operating costs for public water systems with a net present value of \$3.1 billion;
- Reduce capital costs for upgraded water treatment facilities which would likely be at least another \$3 billion; and
- Sustain cold-water fisheries which contribute \$250 million to the region's economy each year.



> Why This is Important to You

If we manage our forest resources well, we can continue to enjoy inexpensive, clean drinking water right from our taps. You will be able to canoe or kayak down clear streams and rivers, fish a world-class brook, or relax on the cool, shaded bank of a river. You'll know that our New England forests preserve the last refuges of landlocked Atlantic salmon, shortnosed sturgeon, and dozens of ecologically valuable aquatic species.

> Facts

New England's freshwater resource will almost certainly become more valuable in the face of global climate change, which is predicted to cause a spread in arid conditions. In the United States, 60% of the country already has experienced extreme drought in at least 10 of the last 100 years. As water becomes harder to come by, the productivity of other regions will suffer; however, New England is predicted to experience increased rainfall, including more intense storms. This puts the pressure on our future forests to slow surface runoff, reduce soil erosion, mitigate flooding, and capture water in above and underground reserves. Investing in the health of our local forest ecosystems will contribute to a stronger and more resilient future for our region.

Our forests protect public surface and groundwater drinking supplies used by 8.8 million people. Conserved forestland provides natural filtration that can reduce the need for expensive water filtration systems. Cities across the nation have invested in forest conservation as an alternative to new water treatment plants and maintained excellent water as a result. These include New York City; northern New Jersey; Boston; Portland, Oregon; and Portland, Maine.

NEW ENGLAND FORESTS CAN . . .

Grow More Wood



We can **double the amount of wood grown and harvested** in New England and produce more of the many wood products we rely on.

> Opportunity

We can double the amount of wood grown and harvested in New England and dramatically improve its quality, while maintaining other forest values. The ecology of New England forests allows them to support sustainable harvesting over the long term. Thus, the global impacts of getting our wood locally are likely to be less than the current impacts of importing it.



> Why This is Important to You

Growing more wood on sustainably managed New England woodlands allows you to replace products such as plastics with environmentally responsible products you can trust. By doing so, we will sustain the local economy and avoid creating negative impacts from wood harvesting in another region of the country or the world where environmental safeguards may be less robust than here in New England. Purchasing local wood supports local foresters, loggers, and woodworkers, and provides New England landowners an economic alternative to development. The dollars you spend stay and cycle within the region to support New England's overall economy.

> Facts

If more landowners employ exemplary forestry practices using proven silvicultural techniques we can transform our forests, not just in terms of the wood produced, but also for wildlife and other values. Silviculture is the art and science of managing the trees in a forest to use the available sunlight, water, nutrients and growing space to produce more and better quality products.

Across the region today the average growth rate is only 0.29 cords per acre per year, yet studies of exemplary forestry have documented yields of over one cord per acre per year on average sites. We have the potential to double the total volume of wood produced to over 20 million cords, while dramatically increasing the quality of harvested wood.

Practicing forestry in a sustainable manner means working within the limits of a biological system to produce the products necessary for a prosperous society without compromising the integrity of the natural system. This report looks to a future in which we meet those standards of sustainability by using the best science and the best practices on more forest ownerships and more acres.

NEW ENGLAND FORESTS CAN . . .

Create Local Jobs



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If we capitalize on our well-trained work force and other assets, we can maintain **30,000 jobs** in the wood products sector and grow our exports to between **\$10 and \$30 billion by 2060.**

> Opportunity

New England can and does support a robust and diverse wood products manufacturing sector known worldwide for its creativity, sustainability in forest management and quality of manufacturing. If we capitalize on the large market for our goods here in New England and in adjacent regions, our existing base of manufacturers, our well trained work force, and our world-class research and development capacity, we could maintain the 30,000 jobs in this sector and grow our shipments from \$4 billion to between \$10 and \$30 billion by 2060.



> Why This is Important to You

A robust wood-based forest industry is critical to keeping New England forested. Wood-based industries provide the markets that pay landowners a fair price for their wood and allow them to keep their forest land as forest and practice good forest management. These diverse industries offer you a variety of opportunities to choose locally produced products—lumber, furniture, maple syrup, paper—that keep dollars flowing in our economy. The use of wood residues and low quality wood for fuel can provide even more jobs and substitute for fossil fuel products that exacerbate climate change.

> Facts

New England's forest products industry is a significant part of the region's economic base, contributing approximately \$4 billion and more than 30,000 jobs to the region's economy. Yet, it has changed greatly in the last 50 years and will certainly face major transitions in the next 50. There was a rapid decline in paper manufacturing after 1990. Lumber markets plummeted after 2005 when 50% of U.S. lumber manufacturing disappeared in a few years. Many of the mills in southern New England closed their doors forever.

Looking ahead we will certainly encounter increased global competition in a number of wood products, but new uses for wood and its component parts (e.g., nanotechnologies) are being developed. This suggests that our future as a wood producer will increasingly be one of smaller, specialized, market-oriented firms and not large-scale commodity producers. Higher proportions of quality logs and valuable species will benefit both landowners and forest products manufacturers. We can meet this demand with public support, the good business skills of private land and business owners, and the application of sustainable forest management practices.

NEW ENGLAND FORESTS CAN . . .

Cultivate New Businesses



There are hundreds of forest products beyond lumber, firewood or fiber for making paper, including wild edibles, ash for basket making, medicinal plants, and plants for floral arrangements.

> Opportunity

There are a number of products other than timber that could be produced in greater quantities from New England woodlands. These could sustain multi-million dollar cottage industries right now.

> Why This is Important to You

Products steeped in a region's culture, and grown and worked by local people are a vital component of a sustainable economy. These products connect us to the natural world and support rural life styles that are the fabric of the landscape and communities we cherish as uniquely New England. And they have the potential to deliver a surprisingly large economic punch – all derived from natural, healthy and sustainable products.

> Facts

We are all familiar with maple syrup and balsam fir holiday decorations, but there are hundreds of other products that come from our forests beyond lumber, firewood or fiber for making paper. These alternative products are called nontimber forest products (NTFP) and include wild mushrooms, fiddleheads, berries, spruce gum, birch bark, wild leeks, beech nuts, ash for basket making, medicinal plants, balsam fir needles for making aromatic pillows, seedlings for landscaping and a wide variety of plants used in floral arrangements. A quarter of residents report gathering these products, a higher rate of outdoor activity than golf or backpacking, and while they generally collect them for personal use, these products also support rural incomes and could do even more in the future.

Indeed, NTFP already contribute strongly. New England produces 60% of the country's maple syrup generating over 75 million dollars. One million balsam fir holiday decorations are shipped worldwide employing thousands seasonally, a \$25 million dollar a year industry. Our forests include sites that could produce more woods-grown ginseng, plentiful oak for Shitake mushroom cultivation, and a seasonal abundance of wild mushrooms.



NEW ENGLAND FORESTS CAN . . .

Provide More Wood for Buildings



Wood construction uses considerably less energy than building with concrete and steel, and reduces our emissions and dependence on fossil fuels.

> Opportunity

Using wood as the primary structural material for buildings instead of steel and concrete stores carbon, supports the local economy, and reduces use of more energy-intensive building materials. Based on existing building codes, we could use an additional 400 million board feet of locally grown and harvested wood instead of steel and concrete in commercial, public, and residential structures here in New England. This would keep 3.5 million metric tons of carbon dioxide out of the atmosphere, slowing climate change.



> Why This is Important to You

The use of local wood in construction for your home or business, local library or municipal building reduces your building costs, allows you to play a greater role in fighting climate change and reduces your overall carbon footprint. Since wood construction uses considerably less energy than building with concrete and steel, it reduces our emissions and our dependence on fossil fuels. It also gives you a way to support the people who work and live in rural communities and take care of the natural resources we all depend upon.

> Facts

Building a structure with wood instead of steel or concrete emits fewer greenhouse gases. While 90 to 94% of the one- and two-family residential buildings are made from wood, there is an opportunity to use an additional 65 million board feet in our new homes annually. There is an even greater opportunity to use more wood in commercial and public buildings, where steel and concrete dominate as building materials. Estimates indicate New England could increase the use of wood in commercial and public structures two and one-half fold, for a total of an additional 400 million board feet annually.

New wood technologies such as cross laminated timber and laminated strand lumber allow for even taller buildings. Wood buildings as high as 9 stories in England and 10 stories in Australia have been constructed.

A separate study for this report indicates that our forests can sustainably double their current production setting up a supply chain to meet a potential demand from increased use of wood in construction.

Studies agree that, over the long term, it emits less carbon to build with wood than steel or concrete. On average these studies suggest that using wood containing 100 tons of carbon displaces the 210 tons of carbon that would have been emitted by building with other materials.

NEW ENGLAND FORESTS CAN . . .

Reduce Use of Foreign Oil



New England depends on imported oil and gas to heat homes and businesses. Wood from our local forests can lessen that dependency.

> Opportunity

New England has depended heavily on imported oil and gas to heat homes and businesses. Wood from our local forests can lessen that dependency. Today, only 4% of the region's homes use wood as their primary heating source while another 10% use wood for supplemental heat. But if we use wood to replace fossil fuels in approximately 26% of homes currently heating with oil or propane, we could save consumers of billions of dollars a year, reduce greenhouse gas emissions, and provide new markets for low-grade wood. New markets for low grade wood are critical to efforts to improve the quality of our forests.



> Why This is Important to You

Obtaining renewable energy to heat our homes is one of the most difficult challenges in our quest for sustainable lifestyles. Most home and institutional heating in New England uses fossil fuels, which are expensive, threaten national security, cause climate change, and funnel citizens' earnings out of the region. Right now 45% of all New England homes are heated with oil or propane.

Our forests have a winning proposition to offer. You get to cut your heating bill in half with wood energy, reduce climate change over the long term, enhance our local and regional economies, strengthen national security, and provide a market for low grade wood. Thinning our forests of low grade material will enable us to grow more quality wood products to replace even more fossil-fuel based products and create more economic activity.

> Facts

Studies have indicated we could use wood instead of heating oil or propane for about 26 percent of the homes currently using those fossil fuels. Our forests can produce another 10 million tons of biomass annually, enough to heat these approximately 666,000 homes. This would create or retain thousands of private sector jobs, reduce the demand for oil by more than a billion gallons annually, and save homeowners \$1.85 billion in fuel oil expenditures. About half of that would be reinvested in the local economy for wood fuel and half retained in homeowners' bank accounts as absolute savings.

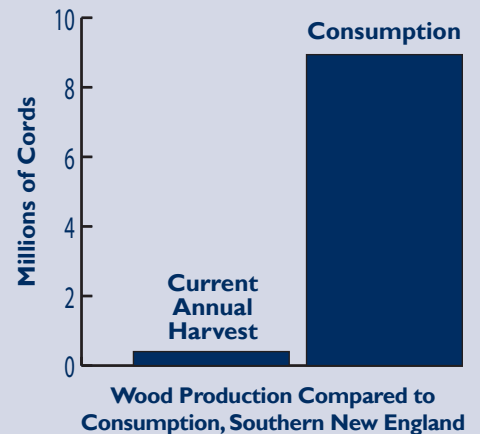
Environmental advantages from more use of wood heat complement economic benefits. Use of sustainably produced wood would mitigate greenhouse emissions over the long term, and immediately reduce sulfur dioxide and mercury emissions from burning fuel oil.

NEW ENGLAND FORESTS CAN . . .

Grow as Much as We Use



On average, each American consumes more than 3000 pounds of wood per year in the form of lumber, paper, sanitary products, furniture, and other uses.



> Opportunity

On average, each American consumes more than 3000 pounds of wood per year in the form of lumber, paper, sanitary products, furniture, and other uses. New England forests are currently not producing this much wood per person. This means some wood products we depend on are produced in other regions and other countries, often under less stringent environmental and forestry standards. We can change this equation.

Through better forest management we could potentially produce enough wood to satisfy our current needs and either export 5.3 million cords or offset current use of fossil-fuel based products.



> Why This is Important to You

Many New Englanders want to lead sustainable lifestyles and be good global citizens, and produce locally as much as possible of what we consume. The forests of New England give you a chance to balance your consumption of wood products with local production. If we don't take advantage of the potential for expanding sustainable forest management in New England, we will continue to demand that our needs be met from distant forests.

> Facts

Each year New Englanders consume 3.4 million more cords of wood than our forests yield. Our New England forests produce 8.1 million cords of wood while we consume 11.5 million cords. But our forests could produce 16.9 million cords or more. The production and consumption varies greatly within the region. The heavily populated southern New England region consuming 8.5 million cords more than it produces, while northern New England actually produces 5.1 million cords more than it consumes.

When we in New England reduce the amount of forest land available to practice forestry, practice inefficient forestry, or don't practice forestry at all, environmental impacts are driven to other parts of the world. As documented in a 2002 article published by Harvard University, "The Illusion of Preservation: A Global Environmental Argument for the Local Production of Natural Resources," the authors contend that "heavy consumption rates by citizens in affluent countries necessitates resource extraction elsewhere and sometimes under weak environmental oversight."

What We Can Accomplish by Conserving and Managing Our New England Forests:

- Keep New England looking and feeling like New England. We can ensure that 90 percent of today's New England forests stay forests via land conservation, including tools such as working forest easements and ecological reserves.
- Supply wildlife habitat for all native species, including enough old and young forests to service the specialized habitat needs of animals New Englanders like to see.
- Contribute at least \$5 billion to the region's economy each year, and more with strategic investments in forest-based recreation.
- Manage and protect our forests to lessen the degree of climate change, protect us from damaging rain storms and drought, and help us all live as comfortably as possible in a changing climate.
- Improve air quality, thus reducing health care costs and crop damage, averting losses of \$700 million per year.
- Purify rainwater through natural processes saving up to \$6 billion of costs to produce clean drinking water.
- Grow higher quality timber and double the amount of wood we are now producing.
- Strengthen and diversify the forest products industry to better compete in a global marketplace keeping 30,000 jobs and growing shipments from \$4 billion to between \$10 and \$30 billion by 2060.
- Develop several new multi-million dollar cottage industries built around non-timber forest products such as mushrooms and ginseng.
- Keep 3.5 million metric tons of carbon out of the atmosphere by using 400 million board feet of local wood instead of steel and concrete in our buildings.
- Save \$1.85 billion a year in oil costs and mitigate climate change by shifting 26% of the homes now heating with oil to renewable wood energy.
- Through better forest management, produce enough wood to match or exceed our current regional consumption of nearly 12 million cords.

Five Steps to Capture the Potential of New England's Forests:

The vision laid out in this document is one of regional sustainability founded on healthy forests. New England Forestry Foundation is committed to achieving this vision. As a voter, a consumer, and a citizen of New England there are things you too can do to help achieve the vision.

With your help, New England Forestry Foundation will work to ensure the region accomplishes five key steps:

Step One: Keep forests as forests.

As a region we need to conserve 90% of our remaining forests. Supporting both New England's forest land-owners and our vibrant land trust community is vital. Support efforts to keep forestry profitable. And support your local, regional and national land trusts by volunteering your time, making a financial contribution, and voting in favor of public funding for land conservation.

Step Two: Use more environmentally friendly products.

Expand the demand for renewable products created by New England forests. Seek out local wood products to add natural beauty to your home or business. Whenever possible, use wood instead of concrete and steel in buildings you are building or commissioning.

Step Three: Put our unique home grown energy supply to work.

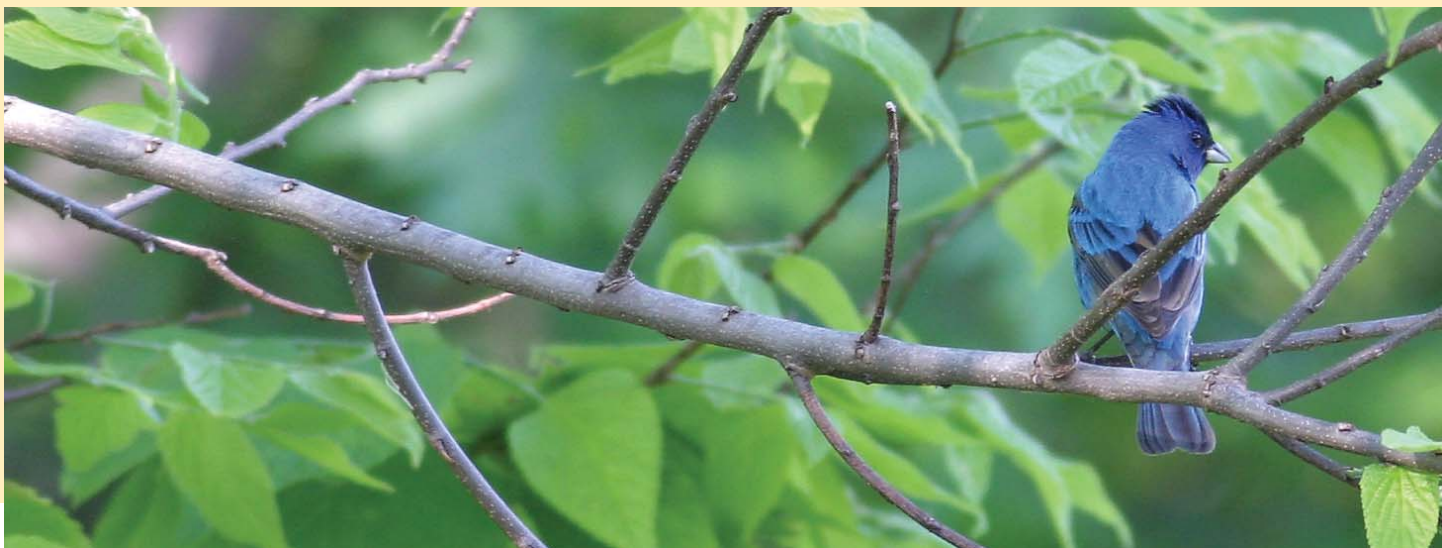
Use logging residue such as limbs and tops, and wood from improvement thinnings for renewable wood heat, helping reduce New England's dependence on environmentally damaging oil heat, saving money, and promoting a higher quality forest for the future.

Step Four: Make our forests more productive.

Sustainable forestry is good for the environment and the local economy—support it and the public policy incentives that will help double the average yield from New England forests.

Step Five: Get more private landowners engaged.

There are more than 200,000 woodland owners and over 1,000 foresters across New England helping to provide you with pure water, clean air, recreational opportunities, and habitat for wildlife. Show you care by being a forest advocate in your community. And importantly, thank them for keeping the forest as forest.





Thank you for your support of forest conservation throughout New England.

FOR FURTHER INFORMATION CONTACT:

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